PULP & PAPER

ovember 27, 1961



## ◆ Alkaline Pulping:

Hot stock refining reduces costs and pollution, panel says . . . . . 33







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Champion tells why it had to reorganize

Computer yields early dividends at Potlatch 40

Buckeye's long-logging ups man-day output 49



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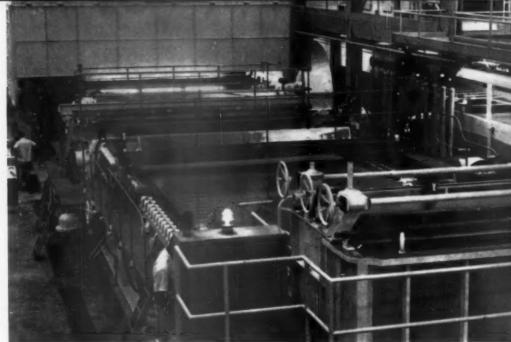
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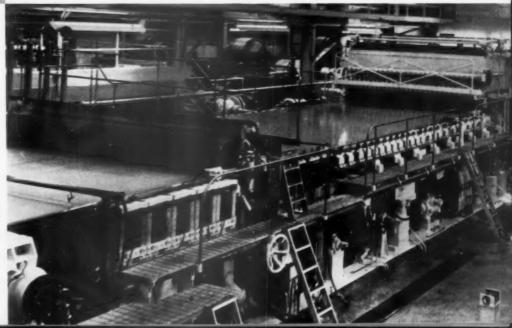
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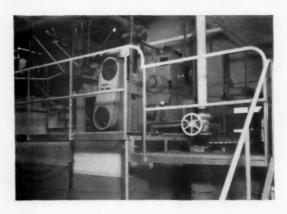
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COVER PICTURE: Among panelists at pulping parley were (top to bottom, left to right) E. D. Archibald, R. Fuller, M. J. Dumford, R. G. Hall, R. W. Stoertz, D. F. Lehman, Al L. Conner, and S. Fahlgren.

## FEATURES

TAPPI PULPING CONFERENCE: Hot black stock screening given high recommendation by "blue-ribbon" panel . . . polysulfide, borohydride, and hydrotropic processes are rated . . . sulfite pulping session draws attention with probative program . . 33 CONTROL COMPUTER, installed recently at Potlatch, is expected to cut downtime for grade changes and perform many other tasks in a way

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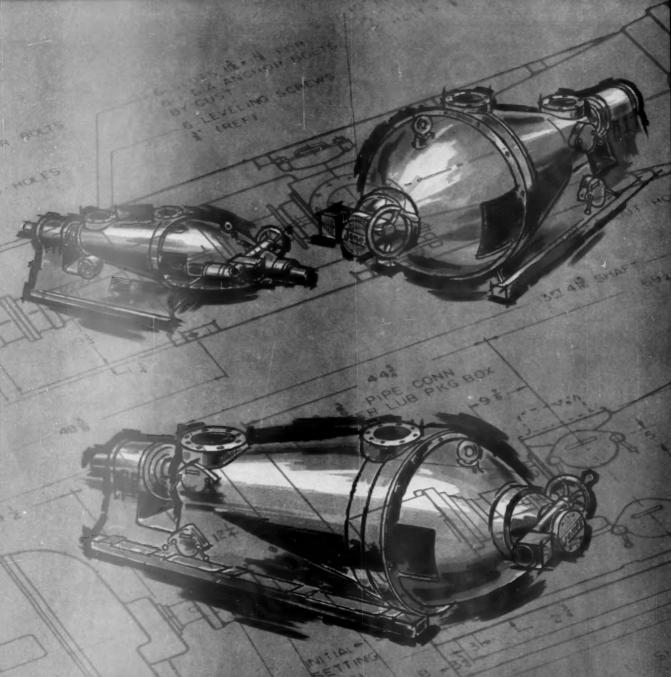
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## NEWS DIGEST ...

#### Paperboard is breaking records

in production and new orders, says National Paperboard Assn. By mid-November, industry was operating at 91% annual capacity rate, had produced some 14,375,884 tons. First week in November found orders at 388,000 tons, highest on record.

#### Two new machines, one startup

and several growth plans make news this issue. New machines are for Thilmany and Ecusta. Startup is at Southwest Forest Industries. Boise Cascade is doubling capacity to 375 tpd; Crown Zellerbach is spending \$1 million to boost pulp production at Camas; and PCA is knee-deep in a \$3.25 million improvement program. For more details, see "Industry Growth," page 13.

#### Improved demand for paperboard

for 1962 is expected to be about 6.6% higher than 1961, will average about 339,000 tons/week for the year, says one economist. Expected fourth quarter demand for this year should reach 329,000 tons/week, up 4%.

#### Stream pollution lawsuit

appears likely in Pennsylvania. State Fish Commission, Sanitary Water Board and a legislative inquiry claim that Glen Alden Mining Corp. caused "one of the most devastating fish kills" on the Susquehanna River as it coincided with pumping of mine shaft water into river. State shut down the pumps, but reopened them on limited basis when company said 1,000 men were put out of work. But the state is expected to sue the company.

#### **New administrator for BDSA**

is Eugene P. Foley, who continues as deputy asst. secretary for domestic affairs. He was former asst. to Sen. Humphrey (D. Minn.), succeeds Tom Drumb who goes to Europe for government's "Export Expansion Drive." News broke as NPA was hearing plea from a Dept. of Commerce spokesman for allout support for new international tariff powers for President Kennedy. For more on world trade developments, see page 9.

#### New capacity survey completed

jointly by American Paper & Pulp Assn. and National Paperboard Assn. shows that paper and paperboard mills expect to add some 1,897,000 tons between now and end of 1964. Paperboard will add 997,000 tons; paper about 900,000 tons.

#### Capacity for paperboard at end of 1962

will be 19,024,000 tons, up from present capacity of about 18,581,000 tons. It will shoot up to 19,293,000 tons by end of 1963, and up to 19,584,000 tons by end of 1964. Biggest growth grades: kraft liners, which will add some 266,000 tons by end of next year through addition of new machines.

#### New paper capacity shows restraint

comments APPA spokesman. Some 523,000 tons of new paper capacity are slated to be added by end of next year. Major grade changes will be in machine-coated (220,000 tons), tissue (119,000 tons), and uncoated groundwood (85,000 tons).

## ... MANAGEMENT

## Costs Reduced at Champion

A major company decides to do "just a few things well"

By ALBERT W. WILSON, Editor Pulp & Paper

HOUSTON, TEX.—Champion Papers—a rejuvenated 68-year-old company formerly known as Champion Paper & Fibre Co.—has trimmed its costs by \$10 to \$12 million a year.

The "new" company, which had sales of \$204 million last year, has shifted from a manufacturing-oriented enterprise to a market-oriented, profit-

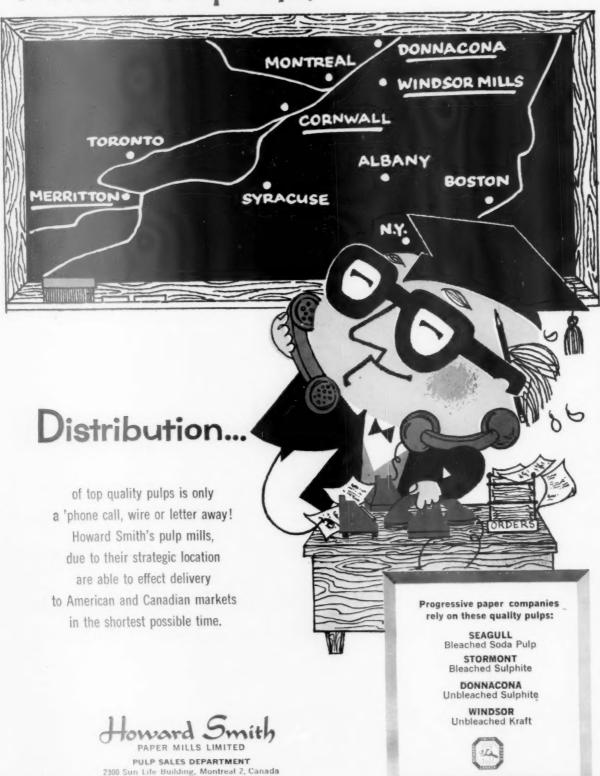
oriented company.

Under a program covering more than two years, the company has:

- Reduced its costs, which it admits "were the highest in the industry."
- Reduced its inventories, which were the highest in Champion's long history.
- Strengthened its distribution system, which was "somewhat archaic."

In the past year or so, this industry has been hearing a lot of gossip about the dramatic "rebuilding job" done on Champion, undoubtedly the most sensational management story in the industry in 1960-61. For the first time, the story was told officially and

## Professor Pulp says,



#### . MANAGEMENT

factually to this industry at the TAPPI Alkaline Pulping Conference at Houston, Tex., on Nov. 1. (One of Champion's three big mills is at Houston; the others are in North Carolina and Ohio.)

The story was told without any attempt to window-dress and without embellishment by Charles Kluss, an ex-investment man of Chicago, who came to Champion as consultant to set up a benefit program, and who is now on the company staff as director of service relations.

The management "revolution" at Champion was a success, Mr. Kluss said, because of the leadership of Karl Bendetsen, the former Hoquiam (Wash.) attorney, who was suddenly catapulted into the presidency when his friend, Reuben Robertson Jr., died tragically in a highway accident. They were both serving in high defense posts in Washington, D.C., in the Truman administration, when they met, and Mr. Robertson persuaded his young colleague to return to Hamilton, Ohio, as his assistant when their tours of government duty were over.

"Of every job, we had to ask, is this work necessary?" Mr. Kluss disclosed.

Champion eliminated its airplanes; hotel suites were declared taboo, also company cars. National advertising was drastically reduced. The motion picture presentations which had been an expensive hallmark of Champion public relations were abolished.

Fidel Castro expropriated a Champion subsidiary, so that that bit of economizing was a force-out, as they say in baseball.

Regarding elimination of jobs that were deemed unnecessary, Mr. Kluss said:

"This was never a witch-hunt or a head-hunt. We enabled people to shift, to make changes. Meanwhile, we declared a moratorium on all hiring. We set up the most liberal severance pay plan, enabling people to make transitions to other employment. All but two of our technical people who left have better jobs today than they did with Champion."

"Did it move back into a Neolithic

age?"

Mr. Kluss answered his own questions by explaining that Champion "changed a few concepts."

"We looked at the job to be done, for product and process improvement—but not to corrupt our own best resources," he said. "We have a small research group that is looking into the major breakthroughs, into the future. When they make a plastic paper out of a tube, where will we be with our millions of tons of second-hand cast iron rolling all over the place. This is not one company versus another; it is one industry versus another. Future growth means looking to the needs and demands of the market..."

Mr. Kluss predicted all kinds of new packaging and a new printing process without contact of surfaces. He forecast the "marriage" of synthetic and



KARL BENDETSEN, former Hoquiam (Wash.) attorney who was educated in Washington state, was catapulted into Champion Papers' presidency and sparked one of the most sensational management "revolutions" in the industry.

natural fibers in the process and the use of less water in papermaking.

As for Champion, under the leadership of Mr. Bendetsen, he said his company had demonstrated:

 The courage to make mistakes, and the courage not to stop when something wasn't working out immediately as expected.

 The ability to be selective—"to do less, to do the few things we could do well."

 A willingness to be nondefensive—to accept good ideas from any place as long as they were constructive.

Symbolic of the company's rejuvenation is that it has moved headquarters from a 40-year-old building to a new modern glass and stone structure in Hamilton, Ohio.

Problems confront this industry as a whole in the international field

## Champion to sell Montag to Westag

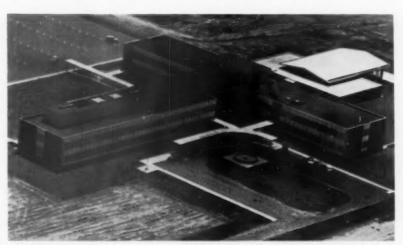
Hamilton, Ohio—Another step by Champion Papers in streamlining its operations has been an agreement to sell its corporate division, Montag, Inc., to Western Tablet & Stationery Corp., of Dayton. The sale will be consummated

The sale will be consummated Jan. 1. Purchase price hasn't been disclosed.

Developments in the school and stationery supply business "have been such that more and more customers are requiring nationwide distribution facilities to serve their needs," according to a joint statement. "The two companies will, together, be able to respond to this growing need by achieving the capability for effective nationwide distribution."

Westab has ten plants in eight states. Montag has two plants in two states.

Managements, trademarks, products and facilities of the two firms will not be changed.



NEW HOME of Champion Papers is this modern building on the Miami River, at Hamilton, Ohio, which houses executive and many other offices.

AVAILABLE

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#### MANAGEMENT

Mr. Kluss declared. As a member of the "management team" of Champion. he argued that the much-publicized wage differential for the U.S. industries in the world markets was "a minor item.'

He said a more important handicap to the U.S. industry was the "staff and service support area." In other countries, he pointed out, less people are used to do the same things that are done here by a much larger staff.

"We have a host of specialists-too many," he asserted.

He warned that American capital must go abroad to "carry our know-how into fore:gn markets," or else, "we will retrograde into a 'China' or

Most pulp and paper companies are 'laggard in marketing," he said. "Most of our salesmen have been order takers." Mr. Kluss added that the industry has been plagued with overcapacity. He described it as "really basically a chemical and transportation industry-not paper." Noting that the steel industry now can profit on 45 per cent of capacity whereas formerly it lost money on 80 per cent, he said the paper industry must learn a lesson from this. "We lack elasticity economically and much hinges on our technicians," he averred.



NEW SYMBOL of Champion was evolved from the company's initials and the web flow of the papermaking process.

(For further reports on Alkaline Pulping Conference, see page 33)

#### INTERNATIONAL

## How to hold paper and pulp markets in Europe

## in face of expanding Common Market is vital question

NEW YORK-How to retain \$155 million in markets for American-made pulp and paper within the expanding European Common Market (the apparently imminent joining of the "Outer Seven" and "Inner Six" nations) was the prime topic on three important occasions at the recent Annual Meeting of the National Paperboard Association.

We must be prepared to lower our own tariffs or there will be no deal . . . European governments would be overthrown if there were no concessions on our side," declared Peter T. Jones, youthful deputy assistant secretary for trade policy, Commerce

We must give President Kennedy authority to make across-the-board tariff reductions; the present Reciprocal Trade Agreements law is totally inadequate," he continued, and urged paperboard industry executives to phone or write congressmen to give the president these new powers.

A question immediately on the lips of several industry leaders was this: "Will the administration consult with industry leaders before it has jelled its commitments to other nations?"

Mr. Iones told PULP & PAPER, after his talk, that the administration contemplates "bringing along" Japan and Latin American nations to assure them of sharing in any European Common Market concessions.

He quoted State Dept. figures showing a tremendous growth of Sino-Soviet bloc trade with 24 undeveloped countries and the assignment of 6,500 Communist technicians to these countries to carry out a "rifle shot technique" of building up this trade, in contrast to America's less selective "spray-fire" barrage. "To compete with this we must further the economic growth and cohesion of the Free World and encourage the independent growth of these countries," he said.

"Free trade throughout the Free World" was an interpretation several industry leaders promptly placed upon the government goals, as indicated by this Washington spokesman.

Lower European tariffs to give U.S. and Scandinavia an even break declared Howard E. Whitaker, president, American Paper and Pulp Association, at a press conference in another hotel an hour after Mr. Jones's speech,

He told PULP & PAPER this industry was confident that Washington officials would consult with paper industry leaders before committing itself to programs affecting this in-

William R. Adams, St. Regis; Gabe Ticoulat, Crown Zellerbach; James T. Sheehy, Rayonier; William H. Chisholm, Oxford; Sture Olsson, Chesapeake Corp.; John Howden, International Paper, and top industry asso-ciation officials flanked Mr. Whitaker at his conference, giving it an aura of being officially rated as perhaps the most important appeal to the public press this industry has ever made.

With Scandinavian countries as well as England and Austria joining the

European Common Market as full or associate members, Mr. Adams pointed out all these countries would eventually enjoy free trade among themselves, and this probably would mean about an 18% tariff differential for American and Canadian paper and paperboard, exclusive of newsprint, Whereas pulp now enters most of these countries free, it was reported at this conference that about a 6% external tariff was contemplated when the European markets combine.

'A substantial amount of our country's kraft liner exports will be affected. We will be shut out of European markets," said Mr. Ticoulat.

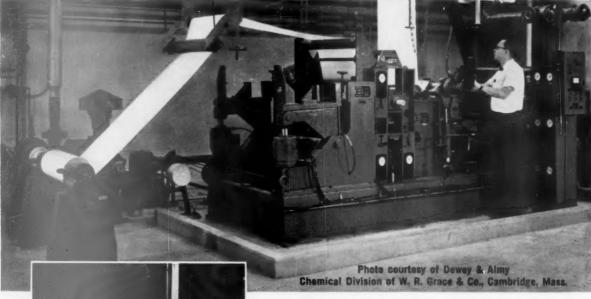
Mr. Whitaker parried many intricate, and sometimes highly technical, tariff questions, He conceded American pulp and paper exports of \$460,000,000 were only a fraction of all U.S. exports, and 37% of this was to Europe, which might mean a disadvantage to this industry in seeking Washington support. Imports of pulp and paper in U.S.A. exceed one billion dollars but are mostly from Canada.

Average duty on imports into U.S.A. of pulp and paper is less than 1%, but this includes free pulp and free newsprint, and it is one of the lowest in all U.S. industries. To another question, he conceded that reduced U.S. tariffs would hurt technical and electrical paper makers most.

Canadian and U.S.A. pulp and paper industries have parallel interests in the European market, but Canada, on a reciprocal basis, would probably have to make greater con-



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A coater to simulate production conditions with provisions for utilizing universal coating methods was required by Dewey & Almy Chemical Division of W. R. Grace & Co., supplier of latex paper coatings.

They decided, after extensive use of Dilts pilot coating facilities, the Dilts machine is the most versatile and accurate now available.

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Dewey & Almy use their Black-Clawson coater for: 1. Research and Development of new products; 2. Customer Service; 3. Sales Development; and 4. Advancement of paper coating technology.

Talk to a Dilts Division coating specialist and learn more about the Black-Clawson pilot coaters.

Close-up of transfer roll.

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Fulton, New York

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#### ... INTERNATIONAL

cessions, said Mr. Whitaker. One reporter raised the point that Canada and other Empire commonwealths might be given some concessions when England is admitted to the Common Market, as a result of demands made by England.

Mr. Whitaker said it was not known whether, the administration program on tariffs will be worked out "overnight, virtually, or on a long-term basis." To another question, he said the paper industry is "for free trade

as long as it is mutual."

A favorable export climate for the paper industry was called for by Sture G. Olsson, president of Chesapeake Corp. of Virginia, and National Paperboard Assn. president.

"The paperboard industry contributes substantially to maintaining the favorable balance of trade which our country presently enjoys," Mr. Olsson declared, "and our national efforts must be toward increased ex-

port opportunities." He expressed alarm at the possibility of foreign imports restrictions which might sharply reduce U.S. paperboard exports and heartily endorsed the administration's campaign to create growth in exports.

"We must not allow ourselves to be prejudiced in tariff considerations by other nations. Our representatives must recognize the important role American manufacturers will take in supplying constantly expanding world markets," Mr. Olssen said.

## Outside investment works two ways in Canada

MONTREAL—Forty-three per cent of Canada's pulp and paper industry is controlled in the U.S., 45% in Canada, and 12% elsewhere, primarily the United Kingdom, according to figures presented to Canada's Resources for Tomorrow conference here recently.

"It is surprising that foreign ownership is not higher," stated J. M. Smith, Toronto management consultant, and D. J. Forgie, director of economic and business research, the Ontario Paper Co. This view was based on "the close association with foreign markets that a heavy dependence on exports implies and the tendency for vertical integration to maintain source of raw materials."

"In another aspect," stated these authorities, it is evident that investment in the industry by overseas and American investors has assisted in its growth, not only in the provision of the capital itself, but in providing assured markets or a strengthened access to foreign markets through the

sales and distribution facilities of parent companies.

"Today's economic pressures are such that manufacturers are obliged through technological and product development to obtain maximum use of raw material resources at the one end and to extend their operations in marketing and distribution activities at the other. The implications on Canada which is export-oriented and lacks large domestic markets pose particular problems and challenges."

## Harmac-Australia building 200 tpd mill

Vancouver—Name of the new pulp and coarse paper mill to be built in South Australia by a group representing MacMillan, Bloedel & Powell River, Ltd., and Mount Gambier State Sawmill will be Harmac-Australia, Ltd. and it will represent a capital investment of \$32,500,000.

Announcement was made by Sir Thomas Playford at a session of the South Australian Parliament.

Initial capacity of the mill will be about 200 tons, but ultimate capacity will be double that amount. The word "Harmac," well known throughout the industry because of MB&PR's bleached kraft grades produced at the Harmac mill on Vancouver Island, is derived from the initial and surname of H. R. MacMillan, one of the founders of the organization.

## . . . . . . . M ERGERS

## Hammermill seeks merger with Strathmore

ERIE, PA.—Hammermill Paper Co., which suffered a setback when it attempted to acquire U.S. Envelope Co. some two years ago, is trying again. Hammermill has entered into agreements with two major stockholders of Strathmore Paper Co, to acquire 42,528 shares of capital stock of Strathmore Paper Co. in exchange for 63,793 shares of common stock of

Hammermill. There are 100,000 shares of Strathmore capital stock outstanding, of which 17,057 are treasury shares.

Strathmore Paper Co.'s. facilities include paper mills at West Springfield, Woronoco and Turners Falls, Mass. Strathmore has been a leading manufacturer for almost 70 years of high quality fine papers primarily in the

field of cotton fiber content bonds, artist papers, deluxe advertising papers and technical papers.

Annual sales of Strathmore are about \$14.5 million. The Woronoco No. 2 mill is presently completing a \$1 million modernization program of its No. 6 paper machine, This mill is considered by some as the U.S.'s most modern cotton fiber paper mill.

## Anglo-Newfoundland, Price join sales

MONTREAL—Sales activities of Anglo-Newfoundland Development Co., Ltd., and Price Brothers & Co., Ltd.

have been consolidated.

Under the new setup, Northeastern Paper Sales, Inc., of New York, a wholly-owned subsidiary of Anglo-Newfoundland, will handle newsprint and pulp sales for Price and for



PULP

Offices and representatives in 60 cities in the United States,
Europe, Latin America,
Africa, and Asia.



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#### MERGERS

Anglo-Newfoundland and its subsidiary, Gaspesia Pulp & Paper Co., Ltd. Wickliffe B. Moore, president of Northeastern, will head up the sales operation.

Price acquired a controlling interest in Anglo-Newfoundland earlier this year through an exchange of stock. As a result of the transaction, Associated Newspapers, Ltd., became a leading stockholder in Price. The British newspaper publishing organization had owned 51 per cent of Anglo-Newfoundland Development Co.

**Newsprint capacity** of the companies involved in the con-

solidation, amounts to about 800,000 tons a year. Present expansion programs will increase this to 1,000,000

tons a year.

The reorganization was announced by T. Ross Moore, president of Anglo-Newfoundland and of Price, who has been designated chief executive officer of Price. Mr. Moore says: "The new sales program has been developed so that the resources of all the companies' four mills may be consolidated into a single unit, providing diversified and efficient service and supply to the companies' customers, newspaper publishers and the various mills to whom they sell pulp products."

Anglo-Newfoundland's newsprint mill is in Grand Falls, Nfld. Gaspesia operates a pulp mill in Chandler, Que., on the Gaspé Peninsula. Price operates newsprint mills in Kenogami and Riverhead, Que. It has other paper making and converting operations at other locations in the province, as well as three sawmills.

## INDUSTRY GROWTH

## Modern Arizona mill starts production

SNOWFLAKE, ARIZ.-The dream of a small group of Texans and associates, headed by Jim Ben Edens and his father, came true on Sunday, Nov. 5 as Southwest Forest Industries Inc. made its first paper here.

This once sleepy town of about 1,000 cattle men and farmers, founded about 70 years ago by a Mr. Snow and a Mr. Flake (you see very little of that wintry white stuff here), has been pretty lively for a long time. Construction crews reached nearly 1,000 at times and now about 250 permanent pulp and paper families have moved in.

Snowflake really came alive when the 165-in. (150-in. trim) Beloit kraft Fourdrinier machine made a smooth start-up virtually right on its target date. Its first product was kraft inside liner.

On Dec. 4, the paralleling 258-in. (240-in. trim) Beloit newsprint machine starts production.

This is the first modern pulp and paper mill between East Texas and California. President Edens, whose own family had only a small sawmilling industry in Texas, and his group bought SFI, the biggest lumber company in the Southwest and one of America's biggest, for the express purpose of making pulp and paper. They hold the largest forest use contract ever made with the U.S. Forest Service outside Alaska, and their own 82,000 acres are checkerboarded on the Rocky Mountain's slopes with three million USFS acres.

Raymond E. Baker, who came here from Weyerhaeuser Co., Tacoma, Wash., where he had been manager of manufacturing, headed up the major pulp and paper expansion project, as executive vice president, reporting



OVER-ALL AERIAL VIEW of new kraft pulp and paper mill, at Snowflake, at 6,500 ft. altitude. On a volcanic plain surrounded by stunted juniper trees and roaming cattle, it is only about 14 miles from the beginning of the largest stand of virgin Ponderosa pine in the world. Its raw material will be drawn from 3 million acres of forests thriving at 7,000 to 9,000 ft. altitude.



Edens

Sternberger

FIRST OF TWO MACHINES STARTS UP. Jim Ben Edens, Texas-born president of Southwest Forest Industries Inc., and Bob Sternberger, manager of the Snowflake Pulp and Paper Division of SFI, standing on catwalk between first of two pressurized headboxes and the wire, survey 165-in. kraft machine.



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#### . . . INDUSTRY GROWTH

directly to Mr. Edens. He drew around him key men from mills in the West Coast, Canada, Alaska and the South. Directly under Mr. Baker is Robert M. Sternberger, manager of the Snowflake pulp and paper division, formerly vice president of Hearst Enterprises Inc., which operates mills at Pejebscot and Sheet Harbour, N.S., where he previously was manager. James Hutchinson, now chief engineer for Southwest Forest Industries, had a prominent role in building two Alaska mills and was associated with Harold Cavin, outstanding pulp and paper engineer of Seattle. Rust Engineering Corp. of Pittsburgh was retained as consulting engineer.

The kraft machine ultimately will make 65,000 tons a year of kraft paper

and paperboard. The newsprint goal will be 75,000 tons. The market for major portions of this output are captive. Most of the newsprint goes to Hearst. Southwest has container plants in Phoenix and Los Angeles, a sheet board plant in Chicago and two other box and paper converting plants and a paper jobbing company in Los Angeles.

## PCA expands mill improvement program

Evanston, Ill.—An expanded \$3,250,000 improvement program, involving three of Packaging Corp. of America's eight paperboard mills, has been announced.

"The program will permit widescale upgrading of paperboard products to achieve a more profitable product mixture, and to broaden the product lines of each mill," according to J. C. Morris, senior vice president, paperboard division.

Morris reports expenditure for mill improvement program under way at Filer City, Mich., has been increased from a previously announced \$1,000,-

000 to \$2,700,000. It includes construction of an 81,500-sq.-ft, addition, installation of new finishing equipment, and major machine additions and revisions.

"Ultimately, this will provide greater efficiency and economy of operation, far greater flexibility in meeting a variety of customer requirements, speedier customer service and the ability to broaden our bleached kraft and blended paperboard product lines," Mr. Morris says.

Improvements are in progress at two other paperboard mills, one at

Rittman, Ohio, and the other at Tama, Iowa. He adds that additional capital improvements are being planned for other mills.

At Rittman, addition of clay coating machinery costing \$300,000 will enable production of superior white grades of paperboard, and, at the same time, effect substantial production economies.

At Tama, addition of clay coating equipment costing approximately \$250,000 will enable the company to market superior white grades of paperboard economically for the first time in a three-state market.

## Southern paper industry has its pulse taken

ATLANTA—Employment in the South's pulp and paper industry reached an all-time high of 86,000 last year and total payroll was a record \$463 million. These and many other facts about the Southern pulp and paper industry have been published in a new 12-state economic analysis just published by the Southern Pulpwood Conservation Assn.

Last year's employment, cites the report, was 3.6% higher than the 83,000 workers in 1958. Total payroll for 1960 was 8.5% higher than the \$426 million reported for 1958.

In addition to those employed in pulp and paper mills, the survey shows an additional 96,000 people were engaged in the independent business of supplying pulpwood to these mills. This was an increase of 17% over the 1958 figure of 82,000.

Pulpwood purchased from landowners in more than 90% of the counties of the South totaled \$471 million last year. These purchases were 16.1% above the \$404 million recorded in 1958.

Other significant facts contained in the study: Southern mills spent \$34 million improving their forests; had more than 17 million acres of land open to hunting and fishing; offered 135 scholarships; sponsored 1,087 youths in forest camps and sponsored 170 school forests.

Copies of the "Economic Analysis of the South Pulp and Paper Industry for 1960" are available from SPCA, 900 Peachtree St., N.E., Atlanta 9, Ga.

#### ... BRIEFS

## Major expansion under way at Boise Cascade Corp.

Wash.-Boise Cascade WALLULA, Corp. will nearly double rated capacity of its kraft mill here by year end according to R. V. Hansberger, president. Additions to be cut in soon include an E. D. Jones Condi continuous digester, expansion of chemical recovery and power boiler and a 37-dryer extension to the paper machine. The plant went into production in 1959 as a 150 tpd mill. Present capacity of 200 tpd will be boosted to 375 with completion of current projects. Boise is also building a modern plywood plant at Yakima, Wash., which is scheduled for production next summer.

#### Crown Zellerbach spending \$1 million at Camas

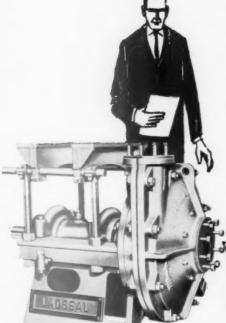
Camas, Wash.—A modernization and expansion program underway here will increase kraft pulp production by 50 tpd at this big Crown Zellerbach Corp. mill. The project includes a new 360,000 lbs/hr. power boiler, a new set of evaporators and two additional tubes in the Black-Clawson Pandia continuous digester system. Total cost will be more than \$1 million.

#### New machine to boost Thilmany capacity 20%

KAUKAUNA, Wis.—Thilmany Pulp and Paper has ordered a 180-in. Beloit machine to produce machine glazed papers, for startup in 1963.

## Ecusta adding machine for lightweight papers.

PISCAH FOREST, N.C.—Ecusta Paper Division of Olin is planning a new machine to make papers about 160 in. wide, at 700 to 1,000 fpm, to start production in 1963.



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## ... NEW PRODUCTS

## Paper house withstands elements well

HUNTINGTON, N.Y.—A vast, new market may open up for the industry—paper houses. One such house, built here a month ago, has withstood the elements magnificently and is expected to last indefinitely, according to its builders.

Builder of the four-room house is Parametrics Research & Development, Inc., of New York City. The company contends that paper can be as durable as wood, adding that paper houses, because of their low cost, would be particularly popular in underdeveloped countries.

Paper houses can be constructed for between \$500 and \$1,000, Parametrics says. Moreover, paper, being light and collapsible, can be shipped inexpensively around the world.

Except for wood stripping and studding, and steel rods to secure the structure, the house is entirely paper. It stands on paper pillars, which are filled with gravel and criss-crossed by the rods that anchor it to the earth. The house has no plumbing or furniture.

A second paper house will be produced for installation at Roosevelt Field, Long Island, next month, according to Parametrics.

Key men in the company are two

lawyers, Robert Albert and Arthur Olick, and two writers, H. L. Humes and George Plimpton. Mr. Humes thought of the idea for a paper house after he had bought land on the island of St. Martins in the Caribbean four years ago. He found most housing there was too costly, as was the cost of transporting conventional materials and paying labor to build a new house.

Not only is the cost of the paper materials considerably less than that of conventional materials, erection costs of paper houses are also strikingly less. Three men worked only four days on the job here.

## Tree bark yields three new products

LONGVIEW, WASH.—Three new basic products have been successfully extracted from Douglas fir bark by Weyerhaeuser Co. researchers at the firm's technical center here. According to W. H. Meadowcroft, mgr., new products div., more than 10 years research and development effort is behind these product groups—named Wey-Chem, Wef and Firwax.

The three product groups are chemically derived from bark and constitute a development beyond Weyerhaeuser's Silvacon bark products which are produced by mechanical fractioning. Wef, a lignocellulosic fiber for thermosetting molding, is manufactured by chemically dissolving away non fibrous portions of the bark to obtain pure spindle-shape

fiber. Wey-Chem products, used as dispersants, binders and adhesive ingredients, are derived from liquor resulting from the primary extraction process. Firwax, extracted from liquor of the primary extraction, is reported to be arousing interest as an ingredient in investment-casting waxes and as a hard wax in carbon-paper inks.

## . . . PULPWOOD MANAGEMENT

## Pacific geneticists study fiber needs

VANCOVER—Trees of pulp species that will grow faster and produce maximum volume of wood to the acre should be the aim of any genetics program in the Pacific Northwest. This is the view of several geneticists who met here recently.

"The problem in this area," said Dr. Louis Bock, Rayonier Canada, Ltd., is not to produce the type of tree we need today but to produce trees with characteristics that will be in demand 80 to 90 years from now."

In view of the technological developments of the past decade, who can say now what might be needed by a half century from now? This is the question asked by other speakers representing six major British Columbia pulp-lumber companies. These companies are sponsors of the Plus Tree Board, which aims at the gradual improvement of the region's commercial forests through elimination, selection and accelerated production.

Main purpose of the seminar was to hear Dr. Bruce Zobel, professor of genetics, school of forestry, University of North Carolina, tell about the progress of a group which he heads and which supplies technical knowhow in the field of genetics to several forest industry companies in the Southern pine area.

Dr. Zobel stressed the need for more basic and applied research and the fact that there were still many unknown factors, but he reported that real progress was being made. Extensive areas were being clear-cut in the South and replanted in seed orchards to produce better trees.

"The South has an advantage in that its forests mature more rapidly," said Dr. Zobel, "but the Pacific Northwest is favored by the fact that owing to the region's great stands of old-growth timber there is not the same urgency in developing improved trees. With your existing mature forest it is easier for you to gain basic knowledge as a background for a genetics program. You can go out into your growing forest and find the specimens you

wish to duplicate or improve upon."

Members of a genetics panel agreed it might be relatively easy to list the characteristics most desired in the Pacific Northwest's wood species for production of pulp and paper, lumber and veneer, but it would be difficult to predict the qualities most useful when trees now being selectively planted might reach maturity.

General opinion today, according to reports to the conference, is that for pulp production wood with relatively long fibers, and immune from fungi and other infestation, should be sought. But the most important factor of all is maximum volume of wood per acre per year.

In view of the success of Australia and New Zealand with exotic species such as pinus radiata it was suggested that the Northwest should experiment to some extent with species other than Douglas fir, hemlock, spruce and balsam in the hope of finding trees that would mature faster, volume and quality of comparable standards.



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## ... PULPWOOD MANAGEMENT

## Quebec mills "forced" to buy pulpwood

MONTREAL—The Quebec administration has "ordered" Canadian International Paper Co. to buy 165,000 cords of pulpwood from farmers and settlers in northwestern Quebec during the next three years. The order includes 30,000 cords of pulpwood from Temiskaming.

According to Lands and Forests Minister Arsenault, CIP will be required to pay \$4,680,000 for the pulpwood. The company will also have to pay for the floating of the wood in northwestern Quebec down to its mills at a cost not to exceed \$5.10 per cord.

Mr. Arsenault says similar action has been taken in Charlevoix and in the Gaspe peninsula. Donohue Bros. Ltd., will have to buy about 7,000 cords of pulpwood from farmers and settlers in Charlevoix. Gaspesia Sulphite Co. will have to buy from the same sources in the Gaspe a total of 120,000 cords of pulpwood.

The Quebec government says it is trying to stabilize the forest economy in areas of the province that have been unable to participate successfully in other forms of revenue.

## Second water bomber to fight fires

Vancouver—Although the first unit of its fleet was destroyed last summer in a crash that caused the death of four crew members, United Flying Tankers, Ltd., representing five major forest industry companies, has decided to convert another giant Mars flying boat for water-bombing service. The job will cost about \$150,000 and the new water bomber will be ready before next season's fire season.

United Flying Tankers bought four Martin Mars flying boats three years ago, although only one of them was equipped with tanks for water. The others were held in reserve. The first ship outfitted performed up to expectations early last summer, even though it did crash. The company claims the accident was due to mechanical defects that will be rectified when the second ship is converted.

The British Columbia Forest Service spent \$4,000,000 fighting forest fires during the past summer, and it is officially estimated that loss of logs due to fire was at least \$40,000,000.

It was one of the worst fire seasons in the province's history. Worst season of all was 1958 when damage was estimated at \$80,000,000.

#### ... BRIEFS

#### Fire frequency sets record but acreage reduced

PORTLAND, ORE.—National forests of the Pacific Northwest region this year have recorded the greatest number of fires of any season on record, but acreage burned is far below that of the severe 1960 season.

To November 1 this year, 2,827 fires burned 22,899 acres of Forest Service-protected lands in the region, which includes most of Washington and Oregon and a small area of northern California. In 1960, 1,925 fires burned 79,126 acres, the highest acreage burned since 1931. Acreage burned this year is comparable to the five-year average, but Forest Service

records going back to 1908 show no higher number of fires for one season. Of the total number of fires, 2,106 were caused by lightning. However, the total of 721 man-caused fires is 170 above the 5-year average.

## FCC rule change will benefit industry

WASHINGTON, D.C.-Federal Communications Commission has released a notice of proposed rule making to revise eligibility rules of the Forest Products Radio Service. Purpose of the change is to extend the radio communications eligibility of a firm to its subsidiary or from subsidiary to parent organization. This arrangement already applies in the Special Industrial and Business Radio Services catagories. It has been useful to enable a corporate family having similar radio communication needs to solve them with one radio system instead of two.

## PEOPLE

## Jack Judge receives high national honor

Mobile-Jack Judge, one of this industry's outstanding engineers, has been signally honored by election to the vice presidency for Southern states of American Society of Mechanical Engineers.

Mr. Judge is assistant chief engineer and coordinator of power plants for the Southern Kraft Division, International Paper Co., with head-quarters in Mobile. However, he is also often called in as consultant on I.P. and Canadian I.P. power and engineering problems in the Northeast, Canada and the West Coast.

He has been an I.P. engineer for 16 years.

Born in Mississippi, Mr. Judge is a graduate of Georgia Tech, class of 1934. He was an engineer with Westinghouse Co. prior to the war. During the war, he served in Army Ordnance for 3½ years, then joined I.P. (see page ...., Chairman Emery's commentary on the Steam and Power section papers at recent Engineering Conference, where Mr. Judge gave talk comparing efficiencies of large and small recovery boilers).

Turn to p. 54



JUDGE

# ideas and news:

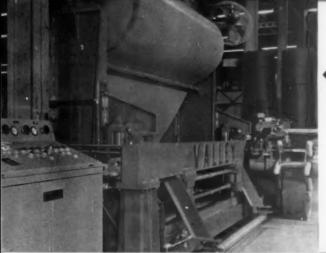


Open motor shrugs off everything but work: This 5-hp SUPER-SEAL motor performs with unfailing dependability . . . even though covered with a foamy pulp mixture. Twice a day, it gets cleaned — with a hose. POXEAL insulation resists moisture, dust and most contaminants . . . enabled this open motor to replace a TEFC motor that had to be frequently rewound.

Control centers cut costs: You save space, simplify wiring and reduce inspection and maintenance expenses with new Allis-Chalmers low-voltage motor control centers. Plug-in terminal blocks and drawout construction cut inspection time by making it quick and easy to withdraw or remove control units. Pushbuttons and pilot lights are mounted on the removable frames to eliminate failures common with hinged wiring. Special connectors make it impossible for bus connections to loosen. Extra-heavy bus bracing makes additional bracing unnecessary when you add capacity.

## Which of these productive ideas could be working for you?

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New "pushbutton" system wraps a roll-a-minute: Valley Iron Works Corporation (an A-C affiliate) has developed an automatic system that can wrap more than 60 rolls an hour. It cuts wrapping paper to proper size, applies it to the roll, and crimps the ends for application of headers. The system can handle rolls of varying sizes in succession — face lengths of 7 to 112 inches, diameters from 15 to 42 inches — other sizes are available.

This 275-ft "oven" bakes a batch of savings: This giant Allis-Chalmers rotary kiln gulps in huge quantities of waste lime sludge . . . converts it into usable lime of uniform high quality. Because of a unique feeding system, this unit can process both sludge and raw limestone (if needed) simultaneously.



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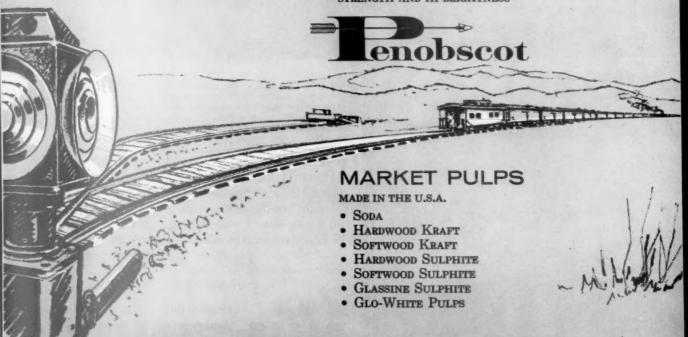
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## MEETINGS

#### . . . December

Virginia-Carolina TAPPI, Jefferson Hotel, Richmond-Dec. 1.

Western Forestry & Conservation Assn., 52nd Conference, Benson Hotel, Portland, Ore.-Dec. 6-8.

Empire State TAPPI, Western Section, Crown & Anchor Restaurant, Niagara Falls-Dec. 6.

Gulf Coast TAPPI, Battle House, Mobile, Ala.-Dec. 1-2.

#### . . . January

Connecticut Valley PIMA, Publick House, Sturbridge, Mass.-Jan. 11.

Gulf Coast TAPPI, Stafford Hotel, Tuscaloosa, Ala.-Jan. 12-13.

Pacific TAPPI, Engineering Conference, Bellingham, Wash.-Jan. 16.

Miami Valley Div., PIMA, joint meeting with Graphic Arts Assn., Carrousel Motel, Cincinnati, Ohio-Jan. 18.

Michigan Div., PIMA-TAPPI, annual papermakers get-together, Hotel Harris, Kalamazoo, Mich.-Jan. 18.

Miami Valley PIMA-Jan. 23.

Canadian Pulp and Paper Assn., technical section, annual meeting. Queen Elizabeth Hotel, Montreal-Jan. 23-26.

#### . . . February

Empire State Section TAPPI, Plastics in the Paper Industry, Crown & Anchor Restaurant, Niagara Falls, N. Y .-Feb. 7.

Paper Week: TAPPI, Commodore Hotel: APPA, Waldorf Hotel; APA, Roosevelt Hotel, New York-Feb. 18-22.

#### . . . March

Empire State Section TAPPI, Stream Pollution, Crown & Anchor Restaurant, Niagara Falls, N. Y.-Mar. 7.

Michigan Div., PIMA, Inman's Restaurant, Galesburg, Mich.-Mar. 15.

Pacific TAPPI, Shibley Award meeting, Camas, Wash.-Mar. 20.

Gulf Coast TAPPI, San Carlos Hotel, Pensacola, Fla.-Mar. 23-24.

Miami Valley Div., PIMA, Manchester Hotel, Middletown, Ohio-Mar. 27.

#### . . . April

Empire State Section TAPPI, Crown & Anchor Restaurant, Niagara Falls, N. Y.-Apr. 4.

Pacific Coast branch, Technical Section, Canadian Pulp & Paper Assn., annual spring meeting, Harrison Hot Springs, B. C.-Apr. 25-29.

#### . . . May

TAPPI, 13th Coating Conference, Netherland-Hilton Hotel, Cincinnati, Ohio -May 14-16.

#### . . . June

PIMA, National Meeting, Statler Hilton Hotel, Buffalo, N. Y.-June 5-7.



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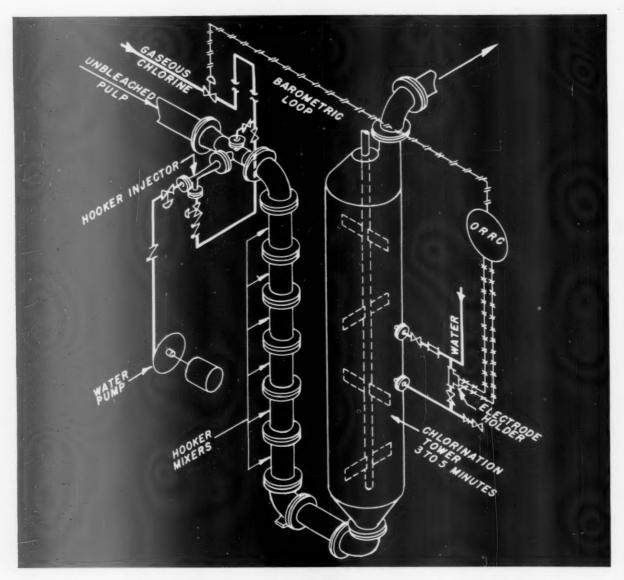
Not every coupling service need is an emergency. But it's the emergencies that really test a good organization. That's why Koppers maintains experienced field engineers and outstanding stock facilities throughout the country. In addition, if it's a Fast's Coupling you're replacing, we have a serial number and specific application history for every Fast's for easy reordering. And our modern manufacturing facilities have the extra capacity to lick an emergency for special requirements.

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stock an additional 3 to 5 minutes supplements the stock line mixers. Efficient and continuous mixing is assured throughout the first few critical minutes of the reaction. Each fiber receives the same amount of chlorine.

3. Automatic control of chlorine addition by redox potential—ends the guesswork in chlorine application, reducing chlorine consumption and improving pulp quality. Successful redox control requires efficient chlorine injection and thorough chlorine-pulp mixing.

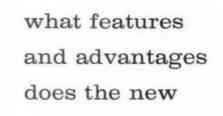
Hooker technical service engineers will help you design and install the Hooker chlorine injection system, Hooker stock line chlorine-pulp mixers and supplementary reactor, and the redox control system...For the full story, write for Bulletin 258: "Improved Pulp Chlorination."

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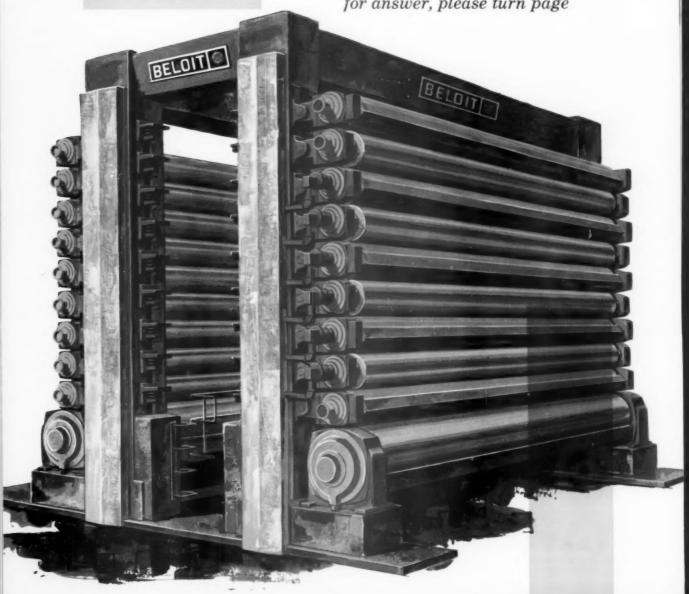
Sales offices: Buffalo, Chicago, Detroit, Los Angeles, New York, Niagara Falls, Philadelphia, Tacoma, Worcester, Mass. In Canada: Hooker Chemicals Limited, North Vancouver, B. C.



## BELOIT CALENDER

design bring to papermaking?

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## BELOIT CALENDERS

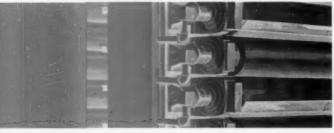
# ...new concept provides more efficient and economical operation

The new Beloit Calender shown here represents a major breakthrough in calender design and gives promise of greatly increased operating efficiency. Every feature of this new-type machine calender reflects rugged dependability, operator convenience, and ease of operation. Location of roll-lift mechanism in the base eliminates the necessity for service ladders and footwalks, and substantially

lowers the over-all calender height. Other important features:

- · rapid, positive roll removal
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- rolls individually supported in raised position
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Descriptive literature upon request.





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## Uniformity

The uniformly good PERFORMANCE you want is built into your Albany felts . . . and it doesn't just happen.

Felts that produce more and last longer are the result of painstaking care in field engineering, design and manufacture and an unending application of experience and testing. . . .

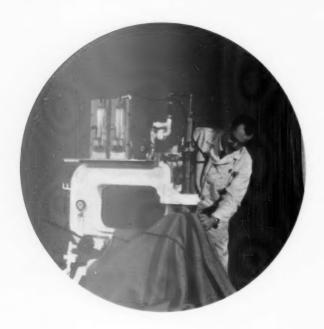
A vital first step in the creation of productive and durable felts is taken when Albany Felt Sales and Service Engineers thoroughly familiarize themselves with your machines, production techniques and felt performance records.

Your requirements are then literally built into each Albany felt you order. Every possible scientific and human effort is put to work to make your Albany felt exactly to your specifications.

You can plan on performance . . . felt after felt after felt.



N. Monmouth, Maine \* Hoosick Falls, N. Y. \* St. Stephen, S. C. Cowansville, Quebec \* Cuautitlan, Mexico



# 120 different checks assure Uniformity

The Closeness Testing Machine provides one of 120 specific checks made during the manufacturing process of every Albany felt. This mechanical test measures porosity by exerting a back pressure of air on the felt. This proves drainage qualities.

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Take yarn making, for example. Some roping, which is spun into yarn, must not vary more than one tenth of an ounce per mile! Over 500 different varieties of yarn are used by the Albany Felt Company. Each yarn is checked frequently against prescribed specifications for weight, tensile strength and elasticity.

In the fulling process, during which the felt is reduced in size by as much as one half, numerous measurements are made to assure exact width and length.

This type of detailed felt testing continues right through to your machine. Check after check after check . . .

THE PAY-OFF:

IMPROVED FELT PERFORMANCE

—AND PROFITS—

AT YOUR MILL







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## Crown Zellerbach adds nine more Sweco Separators

Six years ago Crown Zellerbach started their coated paper operation in West Linn, Oregon, with six 48" sweco Separators. Recently nine more were added. It is The rigid quality control required in making paper coatings demands that all contaminants and foreign objects be screened out. Crown Zellerbach, using sweco Separators with screens from 50 to 200 mesh, produces up to 30 gpm per unit of uniform quality coating—enough to coat 2,100 miles of paper every

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See sweco Booth 1250-52 Chem Show, Nov. 27-Dec. 1, N.Y.C.

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For all surface applications requiring anatase TiO2 pigment:

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(CG = coating gra

- particularly suited to high solids, high speed coatings applied by the trailing blade coater
- entirely suitable to coatings applied by all other processes, including size press and calender
- characterized by ease of dispersion at high solids, low viscosity and stability of coating suspensions, and

minimum abrasion

- outstanding for freedom from agglomerates and for readily producing high gloss and maximum smoothness of fine finishes
- preferred for all types of coated papers, except waxing and similar stocks that may require TITANOX-RA-50

For beater-pigmented papers requiring anatase TiO2 pigment:

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- particularly adaptable to central slurrying systems because of low water absorption
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For waxing and similar stocks, especially in coatings:

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- · provides highest brightness and opacity obtainable

in waxed and similar stocks

• ideal for use in situations where the opacifying power of anatase TiO<sub>2</sub> is insufficient

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#### TAPPI PULPING CONFERENCE

## Black Stock Screens Cut Costs; Novel Pulp Processes Are Rated

Highlights of meeting are strong support for hot stock screening over washers by group of top kraft pulp makers; evaluation of polysulfide, borohydride and hydrotropic; strong comeback for sulfite pulping session

By A.W.W.

—Houston, Texas Hot black stock screening, ahead of or in between washing stages, was heralded at the 15th Annual TAPPI Alkaline Pulping Conference as a new and very important trend in the manufacture of unbleached kraft pulp.

It will achieve tremendous savings of water. It reduces labor and capital investment. It may eliminate foaming and the need for a vacuum pump. In one mill, it saves a decker. It replaces several knotters and open-type screens. It saves chemicals and power. Most mills will gain most of these savings. Systems, of course, will differ.

Top production men from seven of the major pulp companies in the South and West Coast regions and two experienced equipment men constituted a "blue ribbon" panel, which gave the strongest possible endorsement to the new process innovation.

Biggest boost for black stock screening, however, didn't come from the panel, which took over for an entire 3-hour session on Nov. 2, that climaxed the three-day technical program here—it came from the floor.

"We must all recognize the impact upon pollution abatement, when you consider what we are spending now on anti-pollution equipment and the savings this will achieve in many thousands of gallons of water useage," declared Fred Bishop, technical director, Southland Paper Mills, Lufkin, Tex. His mill, he said, is considering installing black stock screening.

"This one item constitutes a sizable break-through in fighting pollution," he declared.

Over 325 pulp men and suppliers were registered in attendance for the conference. Seldom has this writer observed an industry meeting where there was such excellent attendance at the technical and business sessions. There were only 38 wives registered.

In past years, alkaline pulping usually shared the program with the semi-chemical pulping section. This time the sulfite committee—which not long ago was begging for members amid predictions of the end of sulfite as a process—made a strong comeback with a short but interesting program.

The first publication of the new two-stage MgO pulps being made by Weyerhaeuser appeared in print only a few days before the meeting (Pulp & Paper, Oct. 30, page 38), and

further technical data on this development highlighted that session.

Three non-conventional processes—new developments in alkaline pulping—were compared with the conventional basic sulfite process.

This was another highlight of the meeting, with Dr. Edward F. Thode of The Institute of Paper Chemistry presenting a report in which he collaborated with Henry G. Crandall, technical director of Mosinee Paper Mills, and Dr. N. S. Thompson, a McGill graduate, now with Institute.

The stage was set a few years ago for unusual pulping processes, said Dr. Thode, the Institute's pulp and paper making section chief. The much discussed hydrotropic process gives very dark pulp compared with others and conventional kraft; polysulfide does the best job of reducing residual lignin, but alkaline sulfite is much stronger and produces higher qualities than conventional kraft. A sodium sulfite and sodium sulfide mix is most effective in alkaline sulfite.

"Russians are way ahead of us in hydrotropic pulping," he said. "But Japanese and Russian literature is not encouraging as to strength, and greater difficulties with soft than hard

## **TAPPI Pulping Conference**

woods. He mentioned Dr. Ralph Mc-Kee's work (Columbia University), which would effect substantial reductions in equipment and in water use (until washing), but which would require screw presses and present washing difficulties.

A spokesman for Brown Co., Berlin, N.H., said, regarding newspaper reports of the McKee process work there, that it is being done purely under a customer contract and Brown itself otherwise has no part in it.

Dr. Thode credited G. A. Richter of Brown Co. as having been one of the first to use polysulfides. The former withdrew a report that corrosion was a disadvantage when Robert R. Fuller said Gulf States Paper Corp. ran polysulfides for a year without increased corrosion.

An outline of this interesting comparison of pulping processes is shown below

Reduction of pollution load comments, winding up the hot black stock screening panel, brought a statement by Albert L. Conner, of Rome Kraft, one of the converts, that his mill is using less water at 1,300 tons per day production than it did at 750 tons.

Rome Kraft started last April with black stock screening. Two Bird Cen-



TOP PRODUCERS WITH EXPERIENCE formed this outstanding panel on the new trends in black stock screening. . . . They didn't always agree. . . . Front row (I to r): SVEN FAHLGREN, Bird Machine; D. F. LEHMAN, Black-Clawson; E. D. ARCHIBALD, Georgia-Pacific; M. J. DUMFORD, Continental Can. Back row (I to r): HUGH WICKETT, Weyerhaeuser; A. L. CONNER, Rome Kraft; R. W. STOERTZ, West Virginia; BOB FULLER, Gulf States, moderator; R. G. HALL, Union Bag-Camp.

triscreens precede two washer lines, and on the blowtank is an Impco Fibrilizer. Advantages: All leakage from inside is easily noticeable; less hp is required per ton; knot tanks with level controls and overflows are unnecessary; reject flow to refiner or tank can be piped under certain con-

ditions without a pump. Screens ahead of washers save water, steam, power and manpower.

R. G. Hall, Union Bag-Camp superintendent, said the system there uses the Impeo A-25 screen. It eliminates defoamer and screen room, reduces labor, gives better sheet formation over washer, saves chemicals.

Robert Fuller, Gulf States technical director and panel moderator, announced his mill is putting in what is in effect hot stock refining, eliminating a conventional screen room and perhaps rejects to sewers and increasing wood use 5 per cent. A Sutherland breaker trap, 48-in, Sutherland disc refiners and Shartle P36 screens will precede Impco washers in one line and the same setup will precede French screw presses in another. Sonic foam breakers do a good job.

Sven Fahlgren, technical adviser to Bird Machine Co., noted a trend to black stock screening ahead of brown stock washers, or in between washers (which may offer advantages), in both Europe as well as the U.S. Closed systems from blowpit, he said, eliminate foaming, need of vacuum pump, achieves tremendous water savings, also high capacity at low power consumption and eliminates stream pollution problems. He said it affects washer capacity-down about 10 per cent-and freeness is reduced from about 700 to 400, or 500 Canadian freeness. Four panelists disagreed on washing capacity-two said it increased, two said "unchanged."

E. E. Archibald, assistant mill manager, Georgia-Pacific Paper Co.,

#### **Comparison of Pulping Processes**

	companies of tolping trocesses				
	Key reaction	Resultant properties	Disadvantages		
Polysulfide	Unknown (subbing or adding $S_n =$ to cook) appears to improve preferential lignin dissolution.	Possibly higher yield (depends on basis). Possibly higher burst, lower tear.	Unsolved problems in recovery.		
Borohydride	Reduction of carbonyl group prevents "peeling reaction."	Enhanced yield. Light color. No apparent strength effect.	High cost of reagent. Possible slagging prob- lems in recovery.		
Hydrotropic	reaction at all. Action of average to below average a solvent.  Dark, shivy pulp of average to below average strength.		Lack of proven recovery system. Good strength only when buffered with a reagent, which changes process.		
Alkaline sulfide	Buffering action of added sulfite prevents hemicellulose decomposition.	Much enhanced bursting strength, tensile and tear resistance. Very light color.	Low screened yield.  Very obnoxious odor of blow gases.		

#### Comparison of Pulps

	Kraft	Alkaline Sulfite	Boro- hydride	Poly- sulfide	Hydro- tropic
pH	13	11	12	12	ş
Residual Lignin*	2%	2%	2%	1%	5+%
Color	dark brown	cream	tan	dark brown	dark brown
Pulp Quality	standard	highest	standard	standard	low
*normal yield	d				

Toledo, Ore., said the system there employs a flat-bottom blow tank, two 3-25 Solvo Fibrilizers, two Impco A-25 centrifugal screens, four-stage Swenson washing and an Impco thick stock pump to storage.

A moot question at Houston was: Is this desirable for bleached kraft, too? Mr. Archibald said it will be seriously considered for the future Georgia-Pacific bleached kraft mill near Eureka, Calif.

A. H. Wickett, pulp superintendent, Weyerhaeuser Co., Longview, Wash., said his company bleaches market kraft to high grade color, and that he was dubious that hot stock screening would give as good a product. But a Weyerhaeuser committee is investigating, visiting many installations and compiling a 300-page question and answer report. The Springfield, Ore., board mill may go to it.

R. W. Stoertz, West Virginia Pulp and Paper, Charlestown, S.C., said his mill has been hot stock screening since 1954. He said it has reduced contamination through elimination of open screens and thickeners, reduced capital investment, and cut operating and investment costs by eliminating equipment.

Michael Dunford, general superintendent, Continental Can Co., Hopewell, Va., said his mill also uses Impco A-25C pressure screens ahead of washers. Controlled reject flow is important, is done with Bailey Standardtrol and Foxboro Stabilog recorder-controller. Tramp iron tanks and Claflin and Bauer refiners are ahead of screens. To improve quality, the approach is for increased primary refining, smaller holes in screen plates, and a close look at reject handling. And a new secondary headbox should help, he added.

Don Lehman, Black-Clawson project engineer, said systems may vary widely and pre-screening and screening after washing could be important.



PHIL NETHERCUT, executive secretary, TAPPI, checks registrations while his staff greets more delegates.

The B-C Sutherland breaker trap, liquid cyclone cleaner, and Selectifier screens for pressure screening, were being used. He seconded many advantages already cited, adding reduced maintenance and lower initial cost per ton for all equipment,

### What was important in other papers

# Specially prepared evaluations—not abstracts—are presented below for the reader "in a hurry"

Continuous Cooking at High Temperatures and Speeds, D. G. Sutherland and W. F. Carr, Black-Clawson Co. A small 25-ton Pandia pilot plant

A small 25-ton Pandia pilot plant at Middletown, Ohio, was the vehicle for this work in which kraft and bisulfite pulps were cooked. Quality was brought somewhat beyond batch cooks, with cooking time reduced to 30 minutes and temperatures about 375 or 380F. Mr. Carr said they felt they could go as low as 15 minutes. Chemical use of 18 to 19 per cent in relation to wood was somewhat higher than the approximately 15 per cent in batch cooks.

Determination of Sulfide, Mercaptans and Hydroxide in Black Liquors, R. F. Cashen, Jr. and H. D. Bauman, P. H. Glatfelter Co.

A potentiometric method is used in sulfate black liquors in laboratory cooks and it utilizes a vacuum tube circuit employing a "magic eye" or tuning control tube for detecting the sharp potential inflection that occurs at the equivalence point. Time for the determination is under 15 minutes and it could be successfully done on mill scale for more accuracy than is possible under quicker methods.

Outside Storage of Southern Pine Chips, Roger Somsen, pulping researcher, Olin Mathieson Chemical Corp.

Olin Mathieson made its decision

to go to outside chip storage at West Monroe, where it operates five big machines on coated food and other kraft board and paper, on the strength of results of these technical tests. Two 220-cord piles of sawmill pine chips, one wet and one dry, were evaluated, each with storage time of one year.

Each pile was 25 ft. high and total length was about 90 ft., with two sides walled with boards, and a free fall of 45 degrees on one side and 30 per cent on the side where the bulldozer operated.

The addition of water in one pile lowered maximum temperature within the pile and slowed up pulp degradation. Two big water hoses fed this pile during the construction period of five working days, one shift each. Maximum temperatures dropped 16F and average temp. 24F as a result of wetting.

There were no changes in pulp yield for either pulp during the entire test year of storage. Nor were there changes in active alkali demand of up to 26-28 permanganate number.

Strength loss was only in tear quality. This loss was significant after 17 weeks in the unwetted pile. In the wet pile it was significant only after 28 weeks. Tear loss in the unwetted pile was described as comparable to that in similar storage of roundwood.



COMPARES PROCESSES . . . Dr. Ed Thode, Institute of Paper Chemistry, presented one of most-discussed talks —evaluating and comparing different cooking processes.



ROGER SOMSEN, pulp researcher, told why Olin Mathieson went to outside chip storage.

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There was an 80 per cent loss in 30 weeks of both tall oil and turpentine. The rate of tall oil loss was rapid, up to 50 per cent in four weeks. The turpentine loss was not so rapid.

The buildup of carbon dioxide in the piles was interesting and it coincided with tall oil loss, reaching a maximum in four weeks, but Mr. Somsen said there was not neces-

sarily any connection.

The West Monroe chip piles are unusual in having long rubber belting conveyors all the way underneath the piles with table feeders underground feeding onto the belts. Radar Pneumatic chip blowers then convey from the pile area to the mill.

**Vac-Sink Process to Separate Bark and Chips,** R. R. Chase, Union Bag-Camp Paper Corp.

PULP & PAPER published an illustrated report on this Battelle Institute developed-process in which chips, with bark still on, are immersed under vacuum in water. When vacuum is released chip sections become waterlogged and sink; bark floats off. While 17 Southern paper companies financed the Battelle research the Savannah mill is first to adapt it, with a plant which can handle 100,-000 cords per year of sawmill unbarked slabs.

Chips are laundered off the bottom of the tank. The bark is skimmed off the top. An interesting incident de-

#### Kesler receives appreciation award

A "Certificate of Appreciation," the first such award ever made by the Pulping Division of TAPPI, was presented at the meeting to Richard B. Kesler, the Institute of

Paper Chemistry.

Mr. Kesler received the award for alkaline pulping corrosion studies and research, and for his work as head of the testing subcommittee of the alkaline pulping committee.

#### West new alkaline pulping chairman; sulfite committee to name leader



WEST

**McGOVERN** 

Paul West, production manager of Thilmany Pulp & Paper's No. 2 mill, is new alkaline pulping chairman, succeeding David Wether-

Mr. West is in charge of the pulp mill, seven paper machines, the bag plant and the supercalendering section at the Kaukauna, (Wis.) mill. Born in Appleton and raised in Madison, he was graduated in civil engineering from the U. of Wisconsin in 1935. He joined Thilmany as control engineer in 1937 and has been pulp mill superintendent since 1942. Three years ago he was put in charge of the bag mill as well.

William Stengle, technical director, Crossett Mills, is new vice chairman; and Bob Fuller, technical director, Gulf States Paper

Corp., is secretary.

The sulfite committee also will have to name a new chairman, as Paul Trout, former vice president of research and development, Waldorf Paper Products, is out of the industry. P. J. Frost, Crown Zellerbach, Camas, is vice chairman, and the new secretary is Ed Smith, Combustion Engineering Inc. Ken Running, technical director, Albemarle Mills, was spokesman at the meeting for TAPPI president Harold M. Annis.

David Wetherhorn, W. C. Davis and Associates, Savannah, concluded his term as alkaline committee chairman by serving as general chairman of the meeting. Tex Collins, project engineer, Packaging Corp. of America, Filer City, Mich., chaired the outstanding alkaline program; and E. D. Cann, Chas. T. Main Inc., the shorter but high quality sulfite program.

John McGovern has been chairman of TAPPI's Pulp Manufacturing Division since 1959. He is chief engineer of Parsons & Whittemore, Inc., New York, and vice president of several of its subsidiaries. For 25 years he was a pulp specialist at U.S. Forest Products Laboratory in Madison.

scribed by Mr. Chase: Union Bag needed a check valve at a certain point and tried an ordinary rubber basketball. It worked fine and it was dubbed the "Spalding" valve.

A limitation of the flotation system, he indicated, was that it would be desirable only where there was a large concentration of small sawmills that could not afford barkers.

Control of Unbleached Kraft Color, Julian

W. Daniel, Union Bag-Camp Paper Corp. The Savannah mill has developed successful luminous reflectance color controls for some products of both pulp and paper mill. Luminous reflectance was considered a better index for rating reflectance of impure colors than brightness, so that a commercial reflectance meter was modified for this use. Correlations between luminous reflectance and yield of pine and hardwoods were found about as good as those for permanganate number and vield. Pulping control is satisfactory for 45 to 49 per cent yield pulps and similar control of higher yield pulps is possible.

Acid Cleaning of Evaporators—New Method, T. T. Collins, Jr., Packaging Corp. of America. At the Filer City (Mich.) mill,

where Mr. Collins is project engineer, evaporators operate on a 50-50 mixture of neutral sulfite semi-chemical and kraft liquors. (This is a recovery process developed with The Institute of Paper Chemistry.) Acid cleaning of scale is needed frequently but Type 304 stainless steel tubes deteriorated rapidly when using inhibited hydrochloric acid. Phosphoric and/or sulfamic acids together were substituted and there was no corrosion. Inhibitors, however, are still used because of the iron pumps.

W. P. Cooke, of DuPont, suppliers of the acids, showed slide views of heavy corrosion at the welds from hydrochloric acid, with welds stripped right off by the acid, About 50 per cent of the No. 2 effect of the Filer City evaporator was plugged in a few days.

Carbohydrate Changes and Effects in Full Chemical Pulping, N. S. Thompson, Ed Thode and J. R. Peckham, Institute of Panes Chamistry

of Poper Chemistry.

"Xylan" hemicelluloses of black spruce cooked at 1.5 to 12.5 pH were isolated and identified while galactoglucomannan and glucomannan were quantitatively identified. Differences between spruce and other woods were noted. Total hemicellulose in each pulp did not vary greatly but cellulose yield did. Cellulose was least stable at neutral pH. Sheet strength reflected changes in pulping reactions. Most optimum paper properties were from pulps with most amounts of soluble "xylan."

Carbonyl Groups in Sulfonation of Spruce Lignin, P. Luner and H. P. Gore, State University of New York, Syracuse.

Rate of sulfonation for wood meal was determined for carbonyl free and normal lignin at 100C using 9 per cent sodium bisulfite and a 15-to-1 liquor-to-wood ratio. Higher sulfonation rate was found for unreduced wood. Differences in rate between reduced and unreduced wood were ascribed to reduction of coniferyl aldehyde groups in the original wood to coniferyl alcohol groups.

Method of Testing MgO Availability, S. T. Han and Richard B. Kesler, Institute of Paper Chemistry.

Based largely on equilibrium data, a method was developed for determining magnesium oxide availability of magnesias. The test was felt to be satisfactorily sensitive. The products of different manufacturers supplying magnesia-base sulfite pulp mills were tested for MgO availability.

Recent Advances in MgO Pulping, Earl L. Bailey, Weyerhaeuser Co., Cosmopolis, Wash.

First published reports of the new two-stage magnesium-base sulfite pulp processes now in use at the Cosmopolis, Wish., mill of Weyerhaeuser Co. appeared in the Oct. 30 PULP & PAPER.

Mr. Bailey went into further detail on technical features of this wide spectrum of pulps. A two-stage acid pulp is characterized by high neutral mullen, high hemicellulose and low alpha and fast hydration. On the other hand, a two-stage neutral sulfite pulp has a very high final mullen, high alpha content, and is a long beating pulp.

The two-stage cooking, in each case, is all done in the same digester with a Babcock & Wilcox recovery

# Kraft industry leaders from South, West converge at conference in Houston



TOM JOHNSON, asst. mgr., Pulp & Paper Div., Union Bag-Camp, and DAVID WETHERHORN, general chairman of Conference, Savannah member of W. C. Davis & Assoc.



ROY D. RIVERS, project mgr., Pulp & Paper Div., M. W. Kellogg Co., and L. D. McGLOTHLIN, kraft mill supt., Crown Zellerbach, Camas, Wash.



RAY BROWN, vice pres. and res. mgr., East Texas P&P, and HUGH WICKETT, kraft and semi-chem pulp supt., Weyerhaeuser, Longview, Wash.



ED POWELL, vice pres./development, Valentine Div., Brown & Root, and ALBERT G. NATWICK, senior consultant, Brown & Root—also for East Texas P&P.



SVEN FAHLGREN, technical advisor, Bird Machine Co., and RALPH BERG-STROM, manager, Svenson Evaporator Co.



VERNON WHITESIDE, mgr., pulp and paper industry sales, Olin Mathieson, and W. H. MONSON, pulp and paper sales, Hooker Chemical Co.



FRED BISHOP, technical director, Southland Paper Mills, and PAUL GIL-MONT, technical director, Calcasieu Paper Co.



GERRY WILLINS, plant supt., Weyerhaeuser, Everett, HUGO HOTZ (in back), S. D. Warren, GUY EMERSON, pulp mill supt., Crown Z, Port Townsend.

#### . . . TAPPI Pulping Conference

system, the same being used for both.

The two-stage acid sulfite is cooked at 150C, with pH of 5.2 to 6, and 135C for pH less than 2. The two-stage neutral sulfite is cooked at 170C for pH 3.7, and at 170C for pH 6.

Development work on the two processes has been performed in research departments of both Weyerhaeuser Co. in Longview, Wash., and Howard Smith Paper Mills in Cornwall, Ont.

PULP & PAPER has published numerous exclusive articles on developments of magnesia-base pulping, based on patents jointly owned by Weyerhaeuser, Howard Smith and Babcock & Wilcox, from the first commercial installations at Longview and Cosmopolis mills of Weyerhaeuser and at two mills in Alaska—Ketchikan Pulp and Sitka—to the Magnefite process at Cornwall. How Wausau Paper Mills improved quality and yield with Magnefite was told for Pulp & Paper readers by Wausau's own project engineer in the Oct. 16 issue.

Two Luncheon Speakers

Marvin Hurley, executive vice president of Houston's Chamber of Commerce and formerly executive vice president of the United States Junior C.ofC., spoke on community leadership at one luncheon. A good community leader, Mr. Hurley held, must have three qualities—knowledge of the past, knowledge of "our enemy" (Communism), and he must participate in local, state or federal government. His comments on the international and national scenes were generally pessimistic.

Charles Kluss, director of service relations, Champion Papers, Hamilton, Ohio, the other luncheon speaker, talked on international business competition. He said higher wages in U.S. was a "minor item" and disputed the argument that they were pricing U.S. goods out of international markets. Instead, he said, "the staff and service support area" of companies was hurting most—foreign companies "use less people to do the same things we do" and "we have too many specialists." U.S. capital must go abroad

"retrograde into a China or an India."

The rest of his speech dealt with
the spectacular management "revolu-

and supply "knowhow" or we will



OLIN MATHIESON decided to go to outside chip storage after tests described at Houston on wet and dry piles. Note how this wet pile is walled up, so that tests can be made at maximum height. Destruction of wet pile has started, as picture shows.

tion" within Champion.

There were well attended tours of the Champion, East Texas and Southland mills on the final day, and Diamond Alkali also held an open house at Deer Park, Tex.

#### Paper industry men win national award



LAWRENCE

HOLDERBY

MOGGIO

MILWAUKEE—J. M. Holderby, manager, Lakes States Yeast and Chemical Division of the St. Regis Paper Co., Rhinelander, Wis., and W. A Moggio, section head, Felt Products Research, Armstrong Cork Co., Lancaster, Pa., were honored with the Industrial Wastes Award at the recent 34th annual Water Pollution Control Federation meeting.

President Ray E. Lawrence presented the award for the technical paper, "Utilization of Spent Sulfite Liquor," published in the Feb. 1960 Federation Journal, as the finest example of industrial wastes technology.

The Industrial Wastes Award is presented annually in the form of a handsome plaque to a member of any Federation member association for the most outstanding contribution by an industry employe on any aspect of industrial wastes control, as published in the Federation Journal. The Federation has 10,000 members and subscribers.

Mr. Holderby was graduated from Montana State College in 1922 and earned his MS from the University of Iowa in 1924. After serving Chicago and Wisconsin state and cities as sanitary engineer he became coordinator of research for Sulphite Pulp Mfrs. Research League (1940-1950). During the war he was a major in the Army Sanitary Corps. From 1950-56 he was vice president and general manager of the Lake States Yeast Corp., and in 1956 he assumed his present duties as manager of the Lake States Yeast and Chemical Division, St. Regis Paper Co.

Mr. Moggio was graduated from Rutgers University in 1938 in chemistry and earned his MS there in 1939. Since graduation he has worked as a sanitary engineer-chemist and was the National Council for Stream Improvement's resident engineer in Baton Rouge, La. He has been chief chemist with the East Texas Pulp and Paper Co., and with St. Regis as production manager. He joined Armstrong Cork in 1960.

#### Next issue: Our water supply

Due to unforeseen circumstances, the important article on water supply problems, scheduled to appear in this issue, will be published instead in our next issue—December. Watch for this report which sets the record straight.

#### HOW TO DO IT

#### Problem: How to increase conveyor sprocket life, cut downtime





Place: Brunswick Pulp & Paper Co., Brunswick. Ga.

Solution: A model of manufacturing efficiency, Brunswick Pulp & Paper Co. had a problem on its hands with its No. 13 conveyor shown here. Sprocket life was too short–five months on the average. Worse than this, replacement was difficult and costly because the head end was 60 ft. in the air. It took five men and a crane to do the replacement job. Downtime for replacement was 5½ hours—a bad situation.

To find a solution, the woodyard

superintendent, J. R. Gerardeau, called on Rex conveyor specialists at the R. L. Fulghum Co., Chain Belt distributor in Atlanta, Ga. Instead of the short-life conventional sprockets, Rex Segmental Rim Sprockets are used. Tough steel segmental rims, heat-treated to exceptional hardness, are simply bolted to the sprocket body. There is no longer any need to remove shafts and bearings. To increase savings further, Rex Segmental Rims are machine-finished on both sides. This means, when wear dictates change, segments can be re-

versed—resulting in double life. When replacement finally does become necessary, it is a fast 2-man-hour job, instead of the former 30. Downtime is no longer a problem, and sprocket life is now in its 18th month, with lots more left.

In picture (left), pulpwood logs are shown getting their first ride aboard Rex yard conveyor. Logs are fed to conveyor by grapple cranes. From conveyor, logs are transferred to sorting deck. Chips are distributed by conveyor which moves back and forth over storage bins.

#### Problem: How to unload compacted chips from railway cars

Place: Bowater Carolina Paper Corp., Catawba, S.C.

Solution: A self-propelled Warner & Swasey Gradall, with a 2 ft. by 3 ft. blade, is used to pull and push the wood chips into the pit beneath the car. The Gradall uses a pushing and swinging motion to break a hole in the compacted cargo. Once a hole is broken completely through the load, the unloading can be completed quickly and easily by the pull-push action of the unit's telescoping boom.

To aid unloading, the cars carrying the chips were specially built by Southern Railway Co. They have full length doors on each side. They are raised approximately five feet to expose the cargo of chips, which have a tendency to bind together due to the motion of the cars in transit.

Bowaters also uses a truck-mounted Gradall, with a 36-in. bucket, in its



chip-unloading operation.

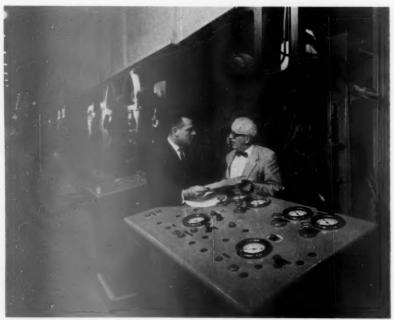
The picture shows the last stage

of the digging operation, with boom pushing completely through cargo.

# Control Computer Will Effect



INDUSTRY FIRST is an IBM 1710 computer system (top) in air conditioned room at Potlatch Forests, Inc., Lewiston, Idaho. Now on wet end of No. 1 machine, the system will be used for pulp mill dryers and No. 2 machine. (L to R) Edwin C. Rettig, executive vice president and general manager; Donald Keller, production manager; Robert Zipse, computer systems programer; Dwain M. Bates, instrumentation engineer; and V. V. Vallandigham, vice president, pulp, paper converting, key figures in instituting the computer program.



FUTURE USE of the computer system in the dryer section of Potlatch's mill is discussed by Mr. Keller and Kenneth Ulm, research director. Plans also call for extending the system to include pulpmaking.

Revolutionary system at Potlatch expected to reduce downtime for grade changes; yield other benefits

By LOUIS H. BLACKERBY Western Editor

Lewiston, Idaho Increased production and lower costs are the goals of a revolutionary control computer system now in operation here at the 650 tpd kraft mill of Potlatch Forests Inc. (Pulp & Paper, May 29).

Nerve center of the system is an IBM 1710 process control computer of the on-stream, open-loop, digital type. It is the first 1710 made by IBM as a standardized system, hence the first production model to be used in any industry.

Potlatch's pioneering efforts may pave the way for continuous precision-controlled production with its accompanying economies. Computer control, widely used in petrochemicals and public utilities, is still in the infant stage in the paper industry. Ultimate goal is development of a system that would allow continuous production with all specifications being met. The IBM 1710 computer was selected by Potlatch as the one that thus far comes closest to that goal.

With the system, the company expects to be able to cut average time for grade changes to five minutes, or even less, on its 300 tpd computer-equipped No. 1 machine, according to V. V. Vallandigham, vice president in charge of pulp, paper and converting. The computer has also been useful in reducing frequency of grade changes. Mr. Vallandigham says he anticipates an overall reduction of 75 per cent in time lost in making grade changes.

Grade-change frequency is a useful index for determining the economic feasibility of installing a

# Paper Machine Economies

control system, it is pointed out, If a machine's daily output is at least 65 tons and involves at least six grade change, equipping it with a computer is said to be economical. On the other hand, installing a computer for a machine that is used chiefly to produce single product lines—such as liner-board or tissue—may not be prudent. But other benefits are also derived from a computer, and they must be considered in deciding whether to invest in one.

#### **Application plans**

for Potlatch's 1710 include:

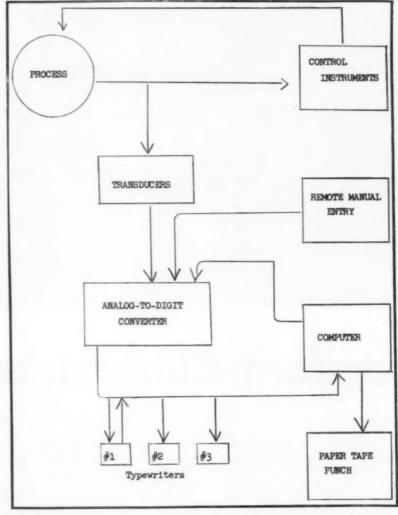
- Predicting quality test results of paperboard as it is being produced.
- Developing grade-change guides for operators.
  - Monitoring processing.
- Continuously scanning instrumentation and logging off-normal conditions in red,
- Reporting all variables on log sheets at 10-minute intervals.
- Collecting extensive data for use in research and application.
- Automating individual process controls by closed-loop application as this becomes feasible.
- Extending the system to include pulpmaking and drying.

A project in which Potlatch effectively used components of its system for functions other than those of the paper machine was developing a heat balance program, according to Donald T. Keller, production manager. The program was set up for the plant's three evaporator sets. Difficulties can now be pin-pointed within six minutes, whereas previously they had to be located by tedious mathematical calculations that took hours.

#### Tailored to the needs

of an individual plant, a computer system makes possible operating efficiencies and production flexibility that before had been only idyllic dreams of efficiency experts. Now, operation of the highly complicated and interrelated pulp-paper processing components at near maximum productivity is close to reality.

Potlatch's computer system receives signals from 46 process instrumentation points that are situated on the Fourdrinier of its No. 1 machine or are closely associated with it. Analog signals transmitted to the computer room are converted to digital values and read into a 1620 computer; then



SCHEMATIC of the IBM 1710 computer control system in use at Potlatch.

they are scanned and converted into appropriate units (e.g. gpm, fpm, psi). The continuous signal data provided by instrumentation is supplemented by intermittent control-test data, which is manually submitted to the computer for each completed reel produced on No. 1.

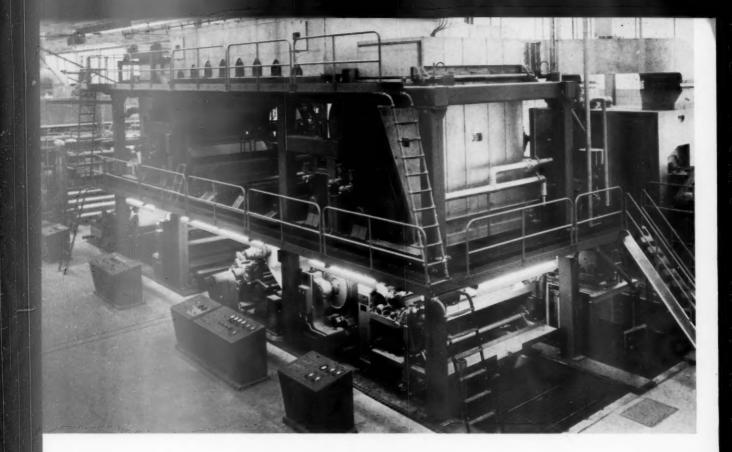
The system reports a "log-sheet" to the operator via high speed type-writer either on a scheduled basis or on demand. The sheet contains extensive data about current processing. Some of these data are computed; others are by instrumentation. One section of the sheet consists of "off-normal summary" entries. If a variable is off-limits, the value of the variable is typed in red in the "off-normal summary" column and a moni-

tor keeps track of that variable. When it comes back on-limits, the system reports the variable in black in the summary column.

#### **Extensive information**

regarding current production conditions is provided for the operator. It's his responsibility to evaluate the data and make appropriate changes as needed.

Plans call for increasing tie-in points on the paper machine to 200 and extending the control system to the dry end of the machine and to the pulp mill-including a new type continuous digester now being added, Furthermore, it's anticipated that PFI's No. 2 machine will be control-system equipped within a year.



# Uniform Blade and Air Knife

By MAURICE R. CASTAGNE, Associate Editor, and PETER INSERRA, Assistant Editor

Newton Falls, N. Y.

A NEW OFF-MACHINE BLADE COATER at Newton Falls Paper Mill, Inc., here has many features and innovations that add up to flexibility and versatility of operation and uniformity of coat weight.

For instance, this 118-in.-wide Black-Clawson Flexiblade coater, which went into commercial production on Sept. 9, can blade coat one or two sides, or it can air knife alone.

In addition, with this new coater, operators can correct for non-uniformity in the base stock and in the blade itself. This is done by a series of profile devices, set at one-inch intervals across the coating head. "We have been getting excellent profiles," says a spokesman for Newton Falls, "and we haven't been more than half a pound over at any one time since we went into operation."

To date, the combination of new blade design and careful attention to screening of the coating color has resulted in elimination of scratches on the coated sheet.

The versatile coater has a range of

from 50 to 100 lb. (25 x 38/500), when applying 5 lbs. of coating per side at speeds up to 2,500 fpm. However, the unit can coat as light as 25 lbs. and as heavy as 125 lbs., which is the full range of publication papers through specialties, says Newton Falls. Up to 5 lbs. of coating per side can be applied at 2,500 fpm. In addition to publication grades, 60-lb. label offset is being produced and "better barrier properties on film with the blade" are being achieved.

Newton Falls had been operating in the low solids range. It is now running about 57 to 60 per cent solids and hasn't pushed to the limit yet. Viscosities range from 1,000 to 2,000 cps at 100 rpm, 90 F.

Off-machine coating

was never in doubt at this mill, because its two paper machines, 93and 114-in. wide and operating in the 750-fpm range, could never attain the capacity, versatility and flexibility available from an off-machine coater designed for 2,500-fpm operations.

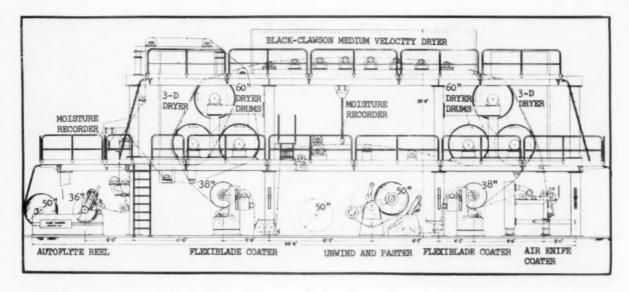
For the past few years, the com-

pany's coating operations have been at about 50 to 60 per cent capacity. Improvement in quality with the new blade coater has been such that the coater is now 10 per cent ahead of last year, says the company.

Newton Falls personnel had anticipated having "to go into the cellar" for two months on start-up of the coater. But the company sold the first two hours production from the new coater.

"We have been impressed with the smoothness of blade coating compared to air knife," says Newton Falls. "The air knife is a good coater and will be around for a good many years. In our case, smoothness in offset is important. With the blade-coated surface we should be able to give offset printers a better sheet than they now have and many other improved qualities. We now can make products with the blade coater that we couldn't touch before.

"What sold us on blade coating was that when it's good, there's nothing better. We reasoned that the problems would be solved sooner or later and



WEB TRAVEL on new versatile 118-in.-wide off-machine dual Flexiblade and air knife coater at Newton Falls Paper Mill. From unwind stand at center, sheet travel is to right, through first blade coater, then directly to air knife, through dryers and to second blade. Note web travel for using air knife alone, air knife on blade or blade on one or two sides. High velocity drying is used for blade coating; medium drying for air knife coating. Coater is designed for 2,500 fpm operation.

# Coating at Newton Falls

that we had better get into blade coating right away.

The 65-ft. long coater does not touch the machine building but is built on its own separate foundation on bedrock. Space between the coater foundation and the building is insulated with a special mastic. There is no vibration transmitted from coater to the building. Operation of the coater is said to be so vibration-free that the operators say they have run the coater at 2,650 fpm and put a nickel on the top frame and the coin was not disturbed.

The coater has two Flexiblade coating heads. The first blade is followed by the air knife. Newton Falls admits that putting the air knife on the new coater was insurance on their part if they had problems with the blade.

Five instrument consoles serve the three coating heads, the unwind and reel. The coater is a six-man operation.

Several interesting innovations have been introduced on the Flexiblade coater. The coating head, posi-

tioned underneath the backing roll, is completely enclosed and coating is done under pressure. When the web breaks everything goes down, The coating head drops, dump valves (three on each blade head) open immediately and void the coating through three dump ports in the coating head. When the signal to stop coating is given, coating is off the blade in 1.5 seconds.

One advantage of coating under pressure is the ability to change pressure in the chamber, thereby changing pressure on the blade and thus changing coat weight. Another advantage is that there is no foam when you are coating under pressure nor is there air entrainment in the coating color. A diaphragm in the center of the pond records pond pressure.

A back seal on the coating pond prevents air from entering with the sheet. There had been some speculation that the incoming sheet would whip air into the pressurized chamber. This doesn't occur, explains Newton Falls. What actually happens is that the coating color starts to leak

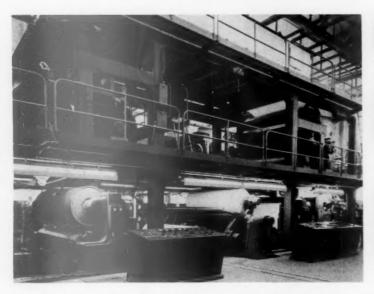
out, but actually seals itself and acts as a lubricant for the sheet, Floating end dams are used to adjust coating width.

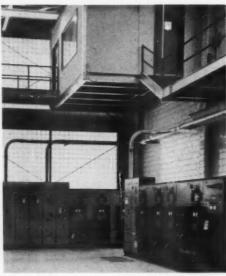
The blade holder

consists of two flexible plastic tubes mounted across the face of the coating head. The bottom hose holds the blade in place; the top hose holds the blade against the web. About 60-to 70-lbs, pressure is used in the tubes.

The pre-honed Swedish steel blades are about 0.018- to 0.025-in. thick. They are the result of several years research by the Dilts Division of The Black-Clawson Co. Blade change is easy, explains a Newton Falls coating operator. "We can set up the blade before you know it. The first step is to set the blade in a special wooden holder which we designed. Then we attach a set of five metal clips along the top of the blades. The setting of these clips has been determined by a micrometer for proper depth when the blade is set in the holder on the coating head.

"For blade change we merely re-





SECOND BLADE HEAD, splicer, first blade and air knife are shown in picture at left. Splices have been made at speeds up to 2,650 fpm running dry. In photograph at right are electrical equipment for Reliance drives (far right) and in background electrical stations for General Electric air and ventilating systems. From office at top right, coating foreman can oversee all coating operations.

lease pressure on the tubes, remove the old blade and slip the new blade in. We adjust the clips at set intervals on top of machined areas on the profile screws. We lock the blade in and are all set to go."

The profiling system has caused much comment in the coating industry. It consists of a series of one-inch micrometer adjustments across the head of the coater. On the Newton Falls coater there are 118 of these profilers. Some coating men say this compounds the problems of blade coating. However, the operators here say this isn't the case. "The only adjustments that have to be made are at startup," they say. "Two inches of paper puts a uniformly coated sheet on the reel."

Wet streaks, arising primarily from irregularities in the blade itself or in the coater head, can be corrected by manually adjusting a thumbscrew machined into the coating head. This applies pressure on the blade.

In one sense, this profile adjustment may be likened to profile adjustments that are made on the slice of the Fourdrinier.

"We like this profile feature," said one operator. "You can see the wet streak and 'dead center' right on it. You have to put more pressure on the knife to eliminate the wet streak."

A magnetic flowmeter on the input and output of the pressurized pond volumetrically measures the amount of coating going to the sheet. Operators contend this is a good feature.

There are two Aquatel moisture re-

corders. One is automatic, the other is manual. One records moisture from the first coating head, the other from the second coating head.

Safety factors have been built into the blade operation. The entire system is protected by web break detectors. The back-up roll automatically lowers if there is a wrap-up. If the web breaks, an electrical system will shut off coating pumps, agitators and supply pumps to the coating heads,

To bring the coating head into position the operator must first hit a reset button and then within three seconds hit a "coater up" button. Once the head retracts, there is an automatic wait of five seconds before the head goes back up.

Automatic splicing is designed for operation at full coating speeds. Dry splices have been successfully made at speeds up to 2,650 fpm. Here's how the splicer works: The operator loads in a new roll, prepares the splice, pushes a "ready" button and the machine does the rest. As the unwinding roll gets down to about two inches from the core, the turret automatically indexes around and brings the full roll to a controlled distance from the unwinding roll. A second signal brings in the speed-up belts. A third signal is given when the roll gets down to about one-half from the core. The machine fires the pressure roll and knife at the proper time; and automatic tension control is switched to the new roll and the empty core comes to a halt.

The splicer is said to be like a computer system on the unwind, in that it calculates machine speed and diameter. Virtually foolproof tachometers, one located in the dryer section that measures web speed, and the other near the new roll, are said to give a very accurate signal from which to splice. When the current of the two tachometers match, the splice is made.

Two drying systems are used because of the differences in drying air knife and blade coating. High velocity drying is used for blade coating, because, according to one explanation, blade coating is like wet cement: the water rises to the top and this is the only area that has to be dried.

Medium velocity dryers are used for air-knife coating, because air-knife coating is said to be wet all the way through and, therefore, the entire coating must be dried. High velocity drying would ripple the surface of air-knife coating and disturb the sheet.

The Black-Clawson 3-D, high velocity dryers are stainless steel-lined, with 3 in. of insulation and an outside coating of aluminum. Temperature of these dryers is about 300F. The high velocity dryers are positioned about 1.5 to 2 in. from the dryer cans. The dryers retract for threading.

A complete change in thinking on drive control is used. Some paper stretches when coated and shrinks when dried, depending on humidity, temperature, paper, coating material,

#### . . Newton Falls Blade Coating

etc. While basically it is desirable to have all motors run at the same nominal speed, it is advantageous to vary the speed or draw to accommodate characteristics of the particular paper. It is also important automatically to recognize small varying tensions that continuously take place. This is why Newton Falls has a system that is 98 to 99 per cent speed-regulated with a 1 to 2 per cent override or vernier.

The Reliance sectional electric drive operates at the unwind speeder belt, first coater, first dryer (with one helper motor), first pull rolls, second coater, second dryer (with two helper motors), second pull rolls and reels.

Operating speed range is from 450 fpm to 2,500 fpm. Crawl speed is 50 to 200 fpm. The machine can be accelerated from threading speed of 40 fpm to 2,500 fpm in one minute. Tension range is from 1 lb. to 4 lbs.

All section regulators, except the unwind speeder belt and second dryer, which is the lead section, have provisions for accepting an adjustable current feedback signal This feature may be used if "soft" speed regulation is desirable.

To start up the coater

it is necessary to start the two motor generator sets, as well as the ventilation blower set, If the disconnects are closed and none of the overloads are tripped, and if none of the section selector switches are in the crawl position, the drive may be made operational by pressing a reset button after a 45-second warmup. When the drive is reset, the safe pilot light is extinguished.

Any section may then be "crawled" by positioning its selector switch to the crawl position. Returning the switch to the off position at any time will stop the section by dynamic braking. Positioning the selector switch to normal will cause the section to start, run and stop, in tandem with the line.

Line set-up will also entail choosing the appropriate direction of rotation for the second dryer and selecting VSS, or manual pot control, of the first coater-group draw.

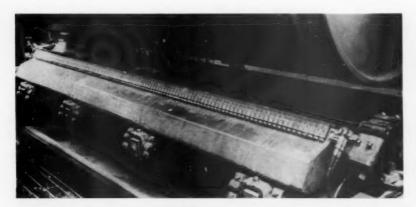
Pressing the thread button will cause all sections that are set up for normal operation to accelerate to a preset speed, which is adjustable with a potentiometer mounted on the master-section control panel. Initiation of the "run" condition will cause all sections preselected to accelerate uniformly to the operating speed called for by the operator's line-speed setting control.

Pushing the stop button will cause all sections to decelerate in step at an independently adjustable rate until they come to rest. A timing relay permits the drive to come to rest before the section main-line contactors are opened.

Pressing the emergency stop button, losing excitation, tripping of any overload, or dropping out of any a-c starter—any of these things will cause all operating sections to stop by dynamic braking. Before the line can be restarted, the fault must be cleared and the reset pushbutton operated.

All section generators are supplied with control panel-mounted ammeters and voltmeters. In addition, each motor armature current is metered on the operator's console, Line speed is also indicated at the console.

Another innovation is the absence of tension rolls among drive sections.





UNIQUE FEATURE of Flexiblade coater is series of one-inch wide profilers. Wet streaks can be corrected by adjusting thumb screw.



PRE-SETTING BLADE for fast blade change. Metal clips, which have been adjusted by a micrometer for proper blade depth in holder, are attached to new blade. Metal clips fit on top of machined areas on coating head.

#### ... Newton Falls Blade Coating



COATING PREPARATION. First two tanks supply coating to existing air knife coaters; second two are first blade coating head, then come the mixers, two more tanks for second blade head and last two tanks are for new air knife coater.

The elimination of these rolls has effected considerable savings and has provided a simpler operation.

Coating color preparation

is set up so that the mill can pump from any one of eight tanks to another tank. Value of the color system, says the company, is that it has enough tanks to make a multitude of coating formulations. The stainless steel piping in the valve system is so arranged that the mill can clean and sterilize every tank and pipe by opening a valve. Steam and water injectors are used on all coating lines for cleaning.

At present, about 75 per cent of the coating formulation is clay and casein, with some protein being used. Domestic and English clays, with some calcium carbonate, are used. The mill doesn't use any additives. There are plans to go to starch-coating later.

Clay is unloaded from hopper cars by pneumatic air conveyors to three storage bins, which hold about 200,-000 lbs, each, or about four carloads. From these bins clay is pulled out and dispersed in 40,000-lb, batches; then it is put in 100,000-lb, storage tanks and pulled out of storage for coating preparation.

Newton Falls uses the Vanderbilt process in which pigment and adhesive are cooked together. Casein is "cut" in the presence of clay for better adhesion. Also, the mill converts

enzymes in the presence of clay.

Casein is warmed to about 140F, wetted down and pumped to the 1,-500-gal. cookers; then it is pumped through the high speed mixers and from them to storage.

Eight 1,500-gal. tanks are used for cooking. There are two tanks for the existing air knife coaters, two for each blade-head, and two for the new air knife coater.

The fact that Newton Falls has not had any problem with scratch marks is attributed, in part, to the good job it is doing on screening. Clay is screened before and after cooking. Coating color is screened before and after storage and ahead of the supply to the coating heads. Overflow from the supply head is again screened before being re-used. One-hundred-mesh screens are used.

The "open-door" policy which Newton Falls has maintained for years paid off when the company decided to go to blade coating. "As a result of this policy," says the company, "we were able to go to everyone. We had panel discussions with some of the most experienced blade coating mills in the industry. Top coating experts from these mills sat down with us and frankly discussed all the pros and cons of blade coating, on- and off-machine coating, etc.

"As a result of this valuable information, we believe, in this new coater we have brought the industry to a new plateau. In effect, we can now say to other mil's who visit our operations: This is what we have learned. New, it's up to you to take it from here."

After several months of operation, how does Newton Falls feel about blade coating, Here's its answer: "The coater is doing everything we bought it for."

#### PULP AND PAPER THANKS . .

The editors believe that rarely has a story of blade coating been probed as deeply as this one on Newton Falls Paper Mill, Inc. The entire staff at Newton Falls was most cooperative.

In particular, the editors want to thank: Ronald W. Hynes, president and general manager; Gordon Black, mill manager; Russell L. Clark, assistant to the president; Kenneth Ross, technical director; J. Wayne Morrow, paper mill superintendent; M. "Buck" Nolan, coating plant supt.; and Karl Ehlers, coating plant foreman.

The Newton Falls engineering and technical staff, under the direction of Arthur C. Smith, plant engineer, was responsible for installation of the coater, in cooperation with the Dilts Division of the Black-Clawson Co. and Northeast Constructors.

**Equipment Notes:** 

Off-machine Flexiblade coater with two blade coating heads, one air knife coater, 3D high velocity and medium velocity dryers, Hi-Spede Splice-O-Matic 3000 flying splicer and Autoflyte reel: The Black-Clawson Co.; Sectional electric drive, Reliance Electric and Engineering Co.; Aquatel moisture profiler, Curtiss-Wright; Electrical ventilating and fan system, General Electric Co.; General contractor, Northeast Constructors; Color preparation: Mixer, Abbey; Clay unloader, Fuller Airveyor; Pumps, Moyno: Saunders valves, Grinnell; Agitation, Lightnin mixers by Mixing Equipment Co.; Screens, Ty-Rocket by W. S. Tyler Co.



# Decking goes faster when you reverse without shifting

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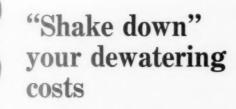
Three new John Deere Bulldozers meet all combinations of requirements for bunching, clearing, or road building work. A free-spooling winch and a John Deere trailing or integral log arch make it easy to bring in real payloads of sawlogs or pulp under all conditions.

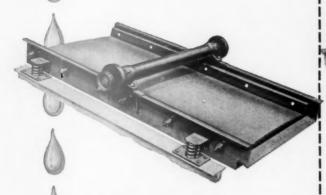
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# Long-logging reduces costs, ups efficiency at Buckeye

-Foley,Fla.

EXPANDED LONG-LOGGING FACILITIES, now operating near full capacity at Buckeye Cellulose Corp.'s kraft mill here, have resulted in more efficient wood handling, lower wood harvesting and woodyard costs and better land management, according to G. A. Tougas, manager of Buckeve's Florida operations.

From initial experiments in 1958, Buckeye's long-logging program has been enlarged to its present capacity of 7,000 tons of wood per week. With long-logging-moving logs from forest to mill in tree lengths up to 60 feet long-a woods production rate of five cords per man-day has been achieved. It may be possible to increase the rate to eight cords, according to Buckeye. These figures compare with a shortwood average of one and one-half cords per man-day.

A long-log sorter was installed adjacent to the existing mill woodyard in 1958. It was designed as an experimental tool to help Buckeye engineers, foresters and wood procurement men determine the best method of handling wood from the company's 800,-000 acres of timber land in north Florida. In this phase, Mr. Tougas said. Buckeye worked closely with St. Regis Paper Co., which was also ex-perimenting with long-logging.

After satisfactory operation of the log sorter for two years, and with still another mill expansion under way, Buckeye's decision to expand its long-logging operation was based on three basic advantages of long-log-

· A high degree of stability in delivery of wood to the mill.

 An increased woods production rate.

• More efficient utilization of wood after it reaches the mill.

The expanded sorter unit consists primarily of an extended Starr unloader deck, two drag chain conveyor decks to break down the piles, a head saw to separate pulpwood from saw



SPEED SKIDDER, a Pettibone Mulliken unit, starts logs on first leg of their journey to Buckeye Cellulose Corp.'s Foley (Fla.) mill.



A 21-TON LOAD is the average hauled by trailer units. Logs, in lengths of from 20 to 60 ft., are put on with a Drott front end loader.

logs, a saw log accumulator, an incline conveyor to move pulpwood sticks to woodyard, a pulp log live deck, a bucking saw, and a debarker and chipper.

The operation is now approaching its full capacity of 7,000 tons per

week. Seven contractors are moving long logs from Buckeye lands; eventually one or two more contractors will be added to maintain a capacity supply for the sorter.

Contractors bring long logs to the mill in average loads of 21 tons, with

#### . . . How long logs are handled in the yard

log length varying from 20 to 60 ft. Logs must be reasonably straight and well limbed in diameters ranging from 4½ to 32 inches.

Logs are unloaded directly from incoming trucks to the extended Starr deck by cables or a LeTourneau log stacker. The unloader deck was extended to 180 ft. in length to a surge capacity of 18 to 20 truckloads, or 360 tons of wood. An 11-ton capacity Taylor Yard Master log stacker is used as a back-up unit in the unloading operation and is also used to load out-going sawlogs.

When the Starr deck is loaded to capacity, logs are accumulated in a storage area adjacent to the sorter. With the huge storage capacity of the sorter and with contractors trucking to the mill from 8 a.m. until 7 p.m.,

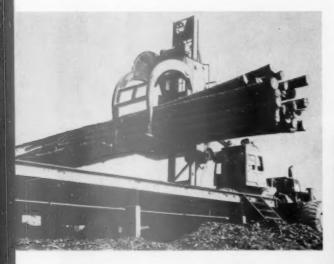
it is possible to keep field storage of logs and, therefore, double handling to a minimum.

Logs are fed from the Starr deck to a drag chain by means of a spring-loaded pull-dog. This moves them against an air-operated kicker, which kicks them to an infeed conveyor. If a log has a premium grade saw log in it, the operator positions it across a headsaw and cuts it, using 2-ft. increments, into 12- to 20-ft. lengths. The saw logs travel down an outfeed conveyor and are kicked into steel accumulators. The Taylor Yard Master is used to move the saw logs from the accumulators to a contractor's truck that hauls them to local sawmills.

Pulpwood, which is of too great diameter, too crooked or too knotty to go through the debarker and chipper, is cut into 5-ft. pulpwood lengths and sent by incline conveyor to the woodyard area. Pulpwood-size trees or portions of trees that can be handled through the debarker and chipper are kicked onto a pulpwood live deck by air-operated Soderhamm two-way kicker plates. They move down this deck and are moved by another set of kickers to the debarker infeed conveyor.

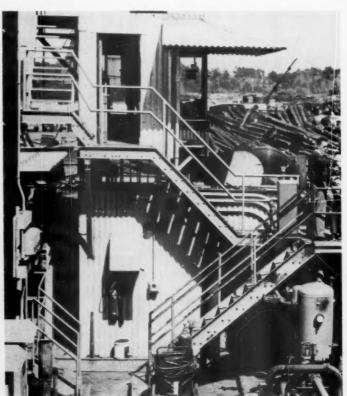
Debarking is accomplished with an Impco ring-type debarker. The chipper is a horizontal feed Carthage using a 92-in. Carthage standard 10-knife disk. The chipper drive is a 700 hp-400 rpm Westinghouse synchronous motor, which duplicates two chipper drives.

The debarker will take a straight log of 19-in. diameter, but it can't handle logs which are appreciably





IN ONE 'BITE' a LeTourneau log stacker picks up entire load of logs (top left) to move them to unloader deck (center). From the extended deck and first live deck, logs move to headsaw, just in front of the control house. Steel accumulators (bottom left), where sawlogs are kicked from the outfeed conveyor, hold logs until they are loaded on contractor's trucks that haul them to local mills. In background is the pulpwood incline conveyor.



crooked. A bucking saw is used ahead of the debarker to break up extreme crooks.

Chips produced at the log sorter are pneumatically conveyed to the screen building in Buckeye's woodyard. At this point chips are discharged into the bulk chip unloading conveyor and pass over the woodyard screens or are discharged on a concrete storage pad.

Because of a required chip conveying distance to the woodyard of approximately 1,000 ft., the only feasible means of conveying was to install a high pressure pneumatic system. Due to surges that are encountered in normal chipping operations, chips are blown by the chipper into a surge bin and metered by a twinscrew feeder into the pneumatic conveying system

A bark conveying system collects bark at the discharge of the infeed deck, as well as sawdust and bark from the debarker. This refuse passes through a hog into a surge bin. From the bin it is fed into a pneumatic bark conveying system and blown at 6,000 fpm to the conveyor belt, which moves it to the bark boiler in the power house. All bark and refuse is utilized for fuel.

Long logging fits well into Buckeye's long-range land management policies of clear cutting and maintenance of even-age stands of timber by block management.

Advantages offered in long logging

 Single-phase clear cutting replaces the old three-stage operation of cutting saw timber, going back after tops, and sending a third crew back for the remaining pulpwood.

(2) Higher degree of mechanization and improvement of woods operation. Larger contractors can justify improved equipment such as front-end loaders and rubber-tired skidders.

(3) Lower unit costs result in greater stumpage returns.

(4) With better equipment, long loggers can operate in wet areas and in all weather, allowing long-range scheduling of cutting blocks.

(5) Better utilization of wood through less loss of tops and chain saw kerf, and more efficient selection of wood for either pulpwood or sawlog usage.

(6) Provides wood procurement department with an operation designed to deliver wood to the mill at near constant rates.

The mill had a capacity of 133,000 tons annually when it was brought on stream in 1954. The company has steadily expanded the mill since that time, adding a second production unit in 1958 and completing a multimillion-dollar internal expansion last year, thus increasing tons-per-year capacity at Foley to 293,000.

INFEED CONVEYOR (top right) will cut log it's cradling to proper saw mill size, and the saw timber will roll forward and be kicked into storage racks. At the same time, the pulpwood portion will be kicked onto pulpwood accumulator behind the headsaw, after which it will be debarked and chipped. Bark and sawdust are blown by bark hog (bottom right) through a pneumatic conveying system to the powerhouse for use as fuel.







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# a DOW COATING to fit almost any paper need!



Among the many fine Dow products, you'll find paper and boxboard coatings for almost every application. Here is a partial list of the Dow products which serve the pulp and paper industry:

NEW DOW LATEX 630 . . . Coatings made from this styrene-butadiene latex offer demonstrably superior pick resistance, excellent mechanical stability and starch compatibility. Dow Latex 630 will produce a smoother, more uniform paper surface, providing maximum printability. Both type and half-tone reproductions will be sharp and clear, with a minimum of production problems.

**DOW SARAN RESINS** . . . For highly protective coatings offering reduced moisture vapor transmission and permeability to gases, and improved grease and oil resistance, select Dow saran resins. They can upgrade packaging films, paper and paper-board for use in many new applications.

**SARAN LATEX F-122**... This aqueous solution of saran dries to form a continuous, tough, glossy film with high resistance to chemicals and water. Use it for decorative coatings and book bindings.

**DOW POLYETHYLENE** . . . A wide range of resins is available for extrusion coating and lamination of paper, paperboard and flexible packaging webs. They offer excellent gloss and heat sealing properties, as well as good water vapor, water and chemical resistance. Flexibility is maintained at low temperatures.

**ETHOCEL®** . . . This organo-soluble cellulose plastic is compatible with many waxes, resins and plasticizers. Coatings made of Ethocel are noted for heat stability and for solubility in low cost solvents.

To solve your coatings problems, call on Dow. You'll find not only a wide selection of products, but experienced technical assistance in their use. For information, write us in Midland, Coatings Sales Department 1932 JJ 11-27.

THE DOW CHEMICAL COMPANY



Midland, Michigan

#### McSwiney is v.p. at Rome, Georgia Kraft

ROME, GA.—As reported previously (PULP & PAPER, Nov. 13, News Digest), E. V. McSwiney has been elected a vice president of Georgia Kraft Co. and Rome Kraft Co. at Macon and Rome.

At the same time, W. M. Ebersole was named general manager of the two companies, which are owned jointly by The Mead Corp. and Inland Container Corp.

Mr. McSwiney has been assistant vice president of Rome Kraft since 1958. He joined Mead in Nashville in 1939. In 1948 he was transferred to Macon as office manager, became assistant controller of Rome Kraft in 1952 and controller in 1956 and was elected assistant vice president in 1958.

Mr. Ebersole's promotion to general manager of production for Rome and Macon mills highlights a 14-year career which began in 1947 when he joined Georgia Kraft Co. as pulp mill supt. Before transferring to Rome earlier this year as manager of production, he had been general supt. for two years and manager of production for seven at Macon.



McSWINEY

#### Changes due Jan. 1 at two Bowater plants

LIVERPOOL, N.S.—A. E. Balloch, now asst, gen. manager of the Bowater Mill at Corner Brook, becomes general manager of Bowaters Mersey mill here on Jan, 1, and H. K. Joyce, now asst. gen. mgr. of the Mersey mill, takes over the same post at Corner Brook.

Mr. Balloch, in his present post since 1956, was previously assistant to the general manager. He is a director of the company.

Mr. Joyce is a member of CPPA technical section and former chairman of its Industrial Relations section.



BALLOCH



JOYCE

#### Upson elects Holls vice president, mfg.

LOCKPORT, N.Y.—Election of Irving E. Holls as vice president, manufacturing, of The Upson Co., world's largest manufacturer of laminated wood fiber wallboards, is announced by President James J. Upson. Mr. Holls succeeds the late Henry W. Schmidt who died Oct. 23.

Mr. Holls joined Upson in 1946 as cost estimator and was elected assistant vice president, manufacturing in 1952. A native of Buffalo, N. Y., he attended the University of Buffalo and Georgia School of Technology.

The 51-year old Upson Co. mill, located at Upson Point here, operates one 120 in. wide special cylinder machine and its rated capacity is 120 tons per day. Wallboard, fiber, sheathing, coated, lacquered and enameled boards, technical and special boards are among products. In mill operations, Earl Jones is board mill supt., Frederick C. Bower is plant engineer, Frederick W. Blackley is chief operating engineer, Harry B. Hulse is plant chemist, and Robert T. Allan, chief machinist.



HOLLS

#### John Campbell promoted to Mobile post

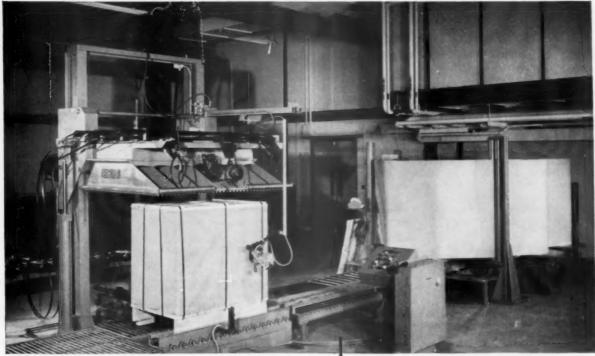
MOBILE—A. L. Ross, vice president of International Paper Co. and general manager of its Southern Kraft Division, announces that John E. Campbell, agent of the Camden, Ark., mill will be transferred to the Division Office in Mobile and assigned a position of increased responsibility.

Mr. Campbell is a graduate of Crossett High School, Crossett, Ark., and of Tyler Commercial College, (Texas).

He first joined International in 1928, as secretary to the mill agent of the Louisiana Mill. In 1945, he was promoted to assistant mill agent of the two mills at Bastrop under M. V. Orr. In 1947, he was transferred to the Camden mill as assistant agent, and in 1949, he was promoted to mill agent.

The appointment of his successor at Camden will be named in the near future.

#### Two men wrap and strap a skid of paper in 5 minutes!



As this skid moves into the compression strapping station, the lengthwise straps drape around the load. The skid automatically stops in position in the press so that saber chutes can extend through notches in the skid runners. Then one, three, or five girth straps can be power fed to the operator, who completes the compression strapping operation while the other man prepares the wrapping station for the next cycle.

A skid load of paper drapes itself with protective paper as it moves along the conveyor. The wrapper is held across the conveyor by a pneumatic clamp on the far side, and feeds from rolls through a guide on the near side. Then the skid is stopped. Two men complete the wrapping operation. Total time: about two minutes.

#### **New Signode skid packaging station**

- ... pre-drapes protective paper
- ... pre-drapes longitudinal straps
- ... feeds girth straps through notches in skid runners

Now production line packaging of skids of paper is a reality—a fast, smooth-flowing operation of which many parts are automatic. The entire job takes about five minutes with two men.

If this seems to mean that you can now put about 90 skids of paper through your strapping machine in 16 man-hours, you're right. What's more, your Signode man can be there in a hurry to tell you more about it. Call him, or write to Signode, today.

Let us show you our new 20 minute 16mm color movie on compression strapping in the paper industry.



First in steel strapping

# EEL STRAPPING CO.

2672 N. Western Avenue . Chicago 47, Illinois Offices Coast to Coast, Foreign Subsidiaries and Distributors World-Wide In Canada: Canadian Steel Strapping Co., Ltd., Montreal . Toronto

#### Ed Cavanaugh returns to Port Angeles mill

PORT ANGELES, WASH.—Edward Cavanaugh returns to his old haunts in Port Angeles to be the chief engineer of the Fibreboard Paper Products Corp., the groundwood, sulfite pulp and board mill which makes 130 tons per day of bleached, coated, foodboard and other board grades in two machines.

Mr. Cavanaugh was plant engineer here for Fibreboard for a number of years. Then in recent years he was located at the San Joaquin division of Fibreboard at Antioch, Calif., where he was the production superintendent. At Antioch he was actively identified with the introduction of a Kamyr continuous digester and the new Black-Clawson kraft liner board machine was started up in the fall of 1960. His successor as production superintendent at Antioch is Paul Olsen.

Mr. Cavanaugh was chairman of the new PIMA group in the Bay region in California.

In his new duties here, he reports directly to Vern Basom, the veteran plant manager of Fibreboard's Port Angeles operations.



CAVANAUGH



LATIMER

#### Caption Mixup

Ever since PULP & PAPER published the story on the Time Machine in the Oct. 30 issue, the two gentlemen shown here have been greeted in the "Halls of Springdale" with each other's names instead of their own. It was a printer's error and it is with fingers crossed that we say Mr. Latimer and Mr. Robinson are correctly identified here.



ROBINSON

#### STRICTLY PERSONAL ..

#### **Pacific**



Pettit



Warren



Kindred

Crown Zellerbach Corp. executive promotions in keeping with realignment of consumer products merchandising: Clark Pettit, since 1957 mgr. of sales promotion & advertising-marketing services, is appointed marketing operations mgr., a newly created position in Consumer Products Sales Div.; Glen L. Warren, formerly sales mgr. of central region, becomes sales mgr. Consumer Products Sales Div.; Roy Kindred, who was brand product mgr. for the division, is now merchandising & sales promotion manager.

Ernest K. Leins has been appointed West Coast sales branch-mgr., Solvay Process division, Allied Chemical Corp. Formerly a salesman at Solvay's New Orleans office, he replaces John W. Priesing, now asst. mgr., N. Y. sales.

Dr. John R. Parkinson succeeds the late Edgar G. Putnam as director of Fiber Research Corp., Seattle, Wash. He had been technical director of Boise Cascade Corp.



At Crown Zellerbach divisions: James R. Norris, senior engr. at Port Townsend, transfers to Camas, Wash. div. as project engr. succeeding Pierre F. Barnett who became plant engr. at CZ-Time's St. Francisville, La. plant. Promoted at CZ Central Research Div., Camas, Wash.: Dr. J. Frank Gillespie, research chemist, becomes supervisor of Monomar research; Dr. Ralph Myers is appointed research chemist in printing paper grades development group; Donald M. Blow, associate chem. engr., transfers from CRD to Chemical Products Div. as research chem. engineer.

Paul F. Miescke, office manager of Weyerhaeuser Co.'s Longview, Wash. pulp-paperboard division for over two decades, retires after 30 years service.

W. B. Kirby, director of engineering, ESCO Corp., Portland, Ore., is elected to board of directors of ESCO Ltd. . . Robert Gutknecht joins Los Angeles office of Heyden Newport Chemical Corp's. Nuodex Products Div. as West Coast regional sales representative.

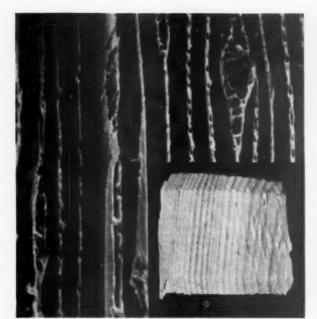
#### Midwest\_

Claud Christiansen has joined Pittsburgh Plate Class Co., Chemical Division, Barberton, Ohio, as supervisor of paper and pulp research. He formerly was with Diamond Alkali and PPRIC.

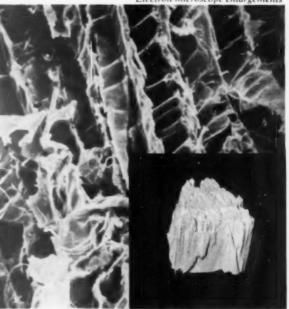


Gregory J. Kryshak has joined the claims and safety staff, and William Zurovitch has joined the research and development staff, Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis. . .





New Anglo-Canadian Wonderchip



Old Conventional Chip

# NEW DRUM CHIPPING METHOD MAKES WONDERCHIP® A GREAT NEW UNBLEACHED SULPHITE PULP

Check these advantages of WONDERCHIP's continuous drum chipping process:

- Yields a sulphite pulp of exceptional strength and quality
- Reduces fiber damage and pulp degradation
- Chips parallel to the grain
- ☐ Brings out the best in the wood
- ☐ Little or no deformation of fiber
- ☐ Very uniform cross-section
- Screening of chips eliminated
- ☐ Knots sliced away; disappear during the cook
- All chips have same length, same thickness (1/8") within reasonable variation
- ☐ More uniform cooking due to uniformity of chips
- Drum chipping permits raising of permanganate number without significant increase in rejects
- Pulp approaches kraft in strength

Write on letterhead for detailed report on WONDERCHIP's new method of wood chipping.

#### Anglo-Canadian Pulp and Paper Mills, Ltd.

QUEBEC, P. Q., CANADA

#### sold by: Anglo Paper Products, Ltd.

615 Dorchester Blvd. West, Montreal 2, Quebec

Sales Representative in the United States:

#### Montmorency Paper Company, Inc.

230 Park Avenue, New York 17, N. Y. . 20 N. Wacker Drive, Chicago 6, Ill.

#### STRICTLY PERSONAL ...

Bert Joling has been appointed tube dept. foreman at Consolidated, and David Marceau now is in-line carton foreman for the company.







Rarba



Smith



Hammond

William Fredericks has been named gen. supt., KVP division, KVP Sutherland Paper Co., Kalamazoo. He was asst. gen. supt. of the dept. Other KVP appointments are Homer Barber, gen. purchasing agent, Sutherland division; Donald C. Smith, administrative services mgr., personnel depts., KVP and Sutherland divisions; Charles Hammond, personnel mgr., combined personnel depts.

James C. O'Neal Jr. has been named gen. sales mgr., multiwall bags and paperboard, Owens - Illinois, Toledo, Ohio. Other key executive appointments at O-I are John R. Murphy, product planning mgr.; Peter J. Fluge, sales promotion and communications mgr.; William H. Morris, market development mgr.

Richard W. Swinehart has been appointed coordinator, cellulose industry activities, The Dow Chemical Co. The post is a newly created one. Lewis R. Powell now is mfg. mgr., Diamond Hoosier Containers, Inc., New Castle, Ind.

#### East

Herbert W. Morse has been named director of public relations, Diamond National Corp., New York. He had been public relations director, Lithographers & Printers National Assn., for the past eight years. . . Edward Zweiban and George Mitchell have been appointed field engineers, S & S Associates Inc., technical representatives. Mr. Zweiban will represent the company in the Washington, D. C. area, and Mr. Mitchell in southeastern Pa., Del., and northern Md.

Robert M. Miller is now sales representative in New Jersey, Pennsylvania and Delaware for the pulp and paper mill division of Sprout, Waldren & Co.





John M. O'Donoghue is Mid-Atlantic regional pulp sales mgr., Riegel Paper Corp., serving Ohio, Western New York, New Jersey, Pennsylvania and Virginia.

Dr. R. Stuart Evans has been named supervisor i/c fundamental section of Rayonier Inc.'s Eastern Research Div. He joined Rayonier five years ago. His current assignment is group leader of wood research at Rayonier Canada Ltd. and he has been in charge of the program on wood research as it applies to saw mills. His headquarters are now in Whippany, N. I.

Bob Proctor has joined the staff at the chemical laboratory of Crocker-Burbank & Co. Ass'cn. as a development engineer. For the past five years he had been asst. director of engineering at Bauer Bros., also spent 22 years with Fitchburg Paper Co. . T. H. Frain Jr. asst. director of packaging sales is now director of sales, packaging division, Downingtown Paper Co.

Del Boutin, sales engineer for the Rice Barton Corp. in Savannah, Ga., has moved to Portland, Maine to service sales in that area.

#### South

H. Newton Cunningham has been named asst. sales mgr., Texas Gulf Sulphur Co., Houston. He was asst. sales mgr., technical sales service.

Gaylord Fauntleroy now is mgr., Crown Zellerbach Corp.'s Gaylord Container plant, Houston, Tex. He was Houston plant supt. . . James W. Acton has been named controller of both wood preserving and southern lumber divisions, International Paper Co., Mobile. He replaces F. L. Patrick who is now controller of western operations . . . turn to p. 62

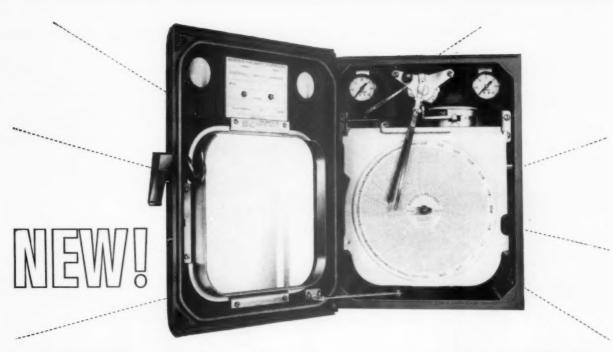


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Becco engineers are specialists in Hydrogen Peroxide...and in the best ways of handling it. Let us put our fourfold service—offering survey, proposal, installation and inspection—to work for you now. It's your assurance of savings, safety and convenience.

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## Bristol Series 532 A/D\* pneumatic recording controller is outstandingly SIMPLE, RELIABLE, and STABLE

- Simple modular design for ease of servicing
- High control stability for closer process control
- Designed for batch-type and continuous processes
- Proportional, proportional-plus-reset, and proportional-plus-derivative control models available

Top control performance with maximum simplicity plus standard Bristol precision measuring elements—those are the key features of the Bristol Series 532 Recording Controller. The 532 uses the same renowned elements that have earned such a reputation for accuracy and dependability on other Bristol automatic controlling and recording instruments-perfected through wide experience and many years of development.

Self-contained modular design of the control unit speeds servicing. The whole modular unit, consisting of an aluminum casting with working parts made of stainless steel, Ni-Span C, and Neoprene diaphragms, can be removed by taking out only two screws and a link.

The die-cast aluminum instrument case (1534 x 1034 x 534 overall) presents a streamlined appearance and is completely dustproof and weatherproof.

Write for complete data on the new, versatile, economical 532 A/D. The Bristol Company, 142 Bristol Road, Waterbury 20, Conn., a Subsidiary of American Chain & Cable Company, Inc.



#### CONTROL UNIT CHARACTERISTICS:

PROPORTIONAL BAND: 0-400% continuously adjustable, direct- or reverse-acting.

RESET: 0.1 to 100 repeats per minute.

**DERIVATIVE:** 0 to 10 minutes derivative time.

AIR PILOT: Non-bleed type.

PILOT CAPACITY: Over 3.0 scfm.

FREQUENCY RESPONSE: Essentially flat to 300

cycles per minute.

TEMPERATURE STABILITY: Less than 0.1% change in the output pressure for 90°F temperature change.

CHART: 8" diameter; wide variety available.

MATERIAL: Aluminum housing; 316 stainless steel internal parts; Ni-Span C feedback element.

#### RECORDING CONTROLLERS OFFERED FOR:

PRESSURE AND VACUUM: Ranges from full vacuum to 15,000 psi.

TEMPERATURE: Ranges from-100°F to +1000°F.

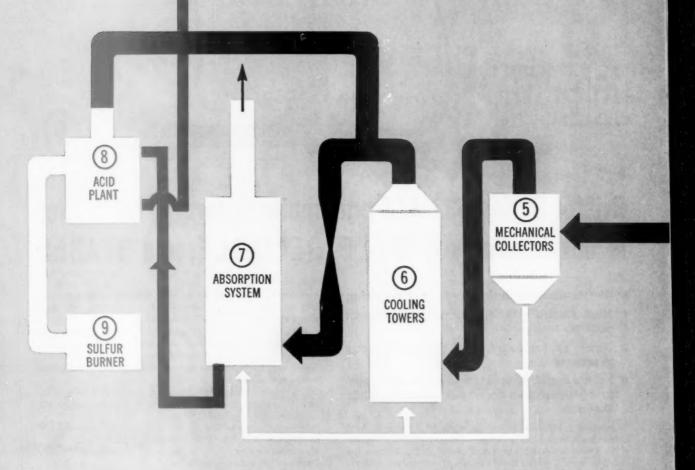
FLOW AND DIFFERENTIAL PRESSURE: With mercury-type manometer and dry-type differential unit.

LIQUID LEVEL: With bulb unit and mercury manometer and dry-type differential unit.

HUMIDITY: Zero to 100% relative humidity.

\*Advanced Design

.for improved production through measurement and control CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS MgO pulping and recovery process. Pulp wood chips are digested in magnesium bisuifite liquor (1) pulp is withdrawn and washed (2) and knots removed. Liquor with 10 to 15% solids is passed through multiple-effect evaporators (3) to raise the solids content to 55% before burning in recovery bollers (4) to produce steam at 860 psi and 825 F for power generation and processing. MgO and SO2 are released from the liquor during the incineration process, MgO is recovered in mechanical collectors (5) while the SO2 and flue gases pass to the cooling and absorption towers (6). Recovered MgO is hydrated and introduced into the acid circulating to the absorption system (7). Here it combines with SO2 to form magnesium bisulfite acid. The cycle is completed by fortifying the recovered magnesium bisulfite acid (8) with sulfur dioxide from the sulfur burner (9).



#### MgO process at Weyerhaeuser's Cosmopolis



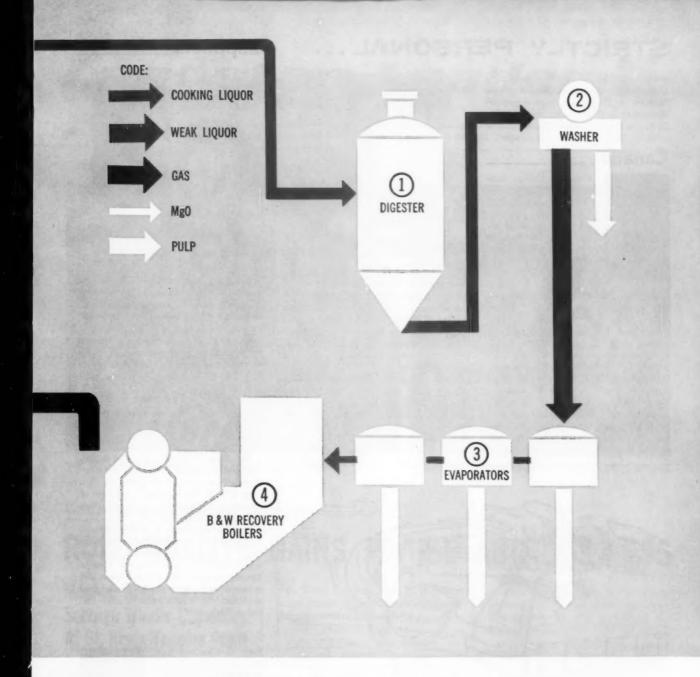
Evaporators in series increase pulping liquor from less than 15% to about 55% solids to permit its burning.



B&W MgO recovery boilers burn the concentrated liquor, supplying 70% of the plant's steam requirements.



Mechanical collector reclaims MgO from furnace flue gas and washes it before further use.



#### Mill recovers 90% of spent liquor solids

Only 20 pounds of magnesium oxide and 40 pounds of sulfur per ton of unbleached pulp are needed for make-up at Weyerhaeuser Company's 400 ton per day sulfite mill at Cosmopolis, Washington.

The simple, closed cycle MgO pulping and recovery process, placed in operation during 1957, reclaims about 90% of the pulping chemicals. The B&W MgO recovery boilers provide 70% of the steam re-

quired for the entire plant's power generation and processing needs. A third B&W bark and oil fired boiler provides the balance of steam requirements.

The commercially-proven MgO pulping and recovery process is ideal for either new mills or conversion and modernization of existing mills. Shorter cooking time required for MgO pulping cuts capital and maintenance costs in new installa-

tions and permits increasing the production of existing mills. Quality sulfite pulp with high brightness and strength is produced.

For more information about the efficient MgO pulping and recovery process, contact your nearest B&W sales office or write The Babcock & Wilcox Company, Boiler Division, Barberton, Ohio.

E-302-1001

**Babcock & Wilcox** 

#### STRICTLY PERSONAL ...

#### Suppliers\_

starts on p. 58 . . . for the company's Long-Bell division, Longview, Wash. . William A. Zellers has been appointed Southwest regional sales mgr., Hills-McCanna Co., Carpentersville, Ill.

#### Canada



Owen T. Dalley, technical supt., Celgar Ltd., has been promoted to general supt., pulp mill division. He is a b.s. and m.s. graduate from Canterbury U., Aus-

Dominion Tar & Chemicals, Ltd., now one of Canada's major factors in the industry as a result of recent corporate acquisitions, has announced several appointments in the sales divisions: S. W. Law, eastern division sales mgr., kraft papers; R. C. Godden, genl. sales mgr., kraft papers, boxboards and industrial materials, Montreal; G. D. G. Seymour, sales mgr., kraft papers, Montreal; A. S. K. Scott, Ontario divisional sales mgr., kraft papers; R. A. Meyers, sales mgr. boxboards, Toronto; J. I. B. Macfarlane, sales mgr. industrial materials.



Matt Finn

Gene Lanigan

#### Key Men for Paper Industry In General Electric Headquarters

SCHENECTADY, N.Y.-Eugene D. Lanigan has been appointed paper industry sales engineer in General Electric Co. headquarters, becoming top man under Matt Finn, who is now manager for paper and light industries.

Both men moved here from the Chicago offices of General Electric, Mr. Finn in 1953, when he came to head up paper and lumber industry sales. Mr. Lanigan came in 1956.

Mr. Finn's responsibilities have been broadened to cover the rubber, printing,

textiles, plastics and food industries, as well as pulp and paper. He indicated his interest in paper by heading up the G. E. delegation to this industry's recent Engineering Conference in Washington.

While Mr. Finn is directly concerned with sales, he also watches long range research and technical developments in G. E., in order to coordinate these with sales work.

Mr. Lanigan has three assistants in paper industry work here, working under him. He has been active in paper since April, prior to that being engaged mainly in the petroleum field.

Mr. Finn was born and raised in Illinois and graduated from the University of Illinois, entering G. E. service in Chicago in 1947. Mr. Lanigan is a native of Brooklyn, N. Y., and graduated from Manhattan College.

Two key men for G. E. in Schenectady, who over the years have been more directly in the paper industry and are widely known in this field are: George Knapp, manager of systems sales and engineering, and Walter Mikelson, now specializing in instrumentation and control development.

Fred C. Goodwill has joined Beloit Iron Works as a coating consultant. He was formerly manager of St. Regis Paper Co.'s Bucksport, Maine mill.





Dr. Krishna Khandelwal has joined Overly's Inc. as director of technical services. He has an m.s. from the U, of Maine, previously was with Beloit and Rice Barton.



THERE'S A RIGHT WAY TO HANDLE H2O2, TOO!



Why not let Becco suggest the best handling system for your particular needs? With its fourfold engineering service, Becco-most experienced producer of H2O2-can serve you well. Including survey, proposal, installation and inspection.

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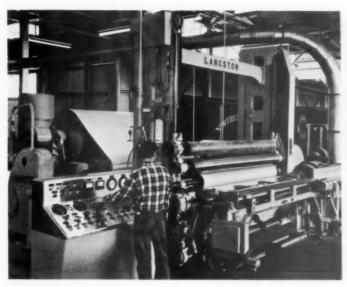
# Langston Leader



NOV. 1961

Published for information of paper and board mills by Samuel M. Langston Company, Camden 4, N.J.

VOL. 3, NO. 6



REWINDING COUNTER ROLLS, an overall view of the installation.



AS SALVAGE ROLL REWINDER, with lowering table partially up.

#### **Counter Roll Winder Scores**

#### **ROLL QUALITY GAINS PRAISE AND BUSINESS**

#### Machine Also Incorporates Salvage Winder Capability At St. Regis Tacoma Plant

Serving the functions of two winders, a single Langston slitter and winder is doing noteworthy double duty for St. Regis Paper Company at its Tacoma, Washington, plant.

Designed primarily for the plant's new counter roll business, the new Langston machine is also built to handle requirements of a salvage rewinder.

As a counter roll winder, its automatic features have resulted in volume production of top quality counter rolls with minimum manpower.

The other or auxiliary function of this "dual purpose" machine is to salvage cull rolls from machine winders and other finishing operations in the mill. From the very light to the very heavy grades, the winder also produces shipping rolls of uniformly high quality up to 60 inches in diameter.

The machine's performance on counter rolls alone has evoked numerous compliments from customers on roll quality and has helped get new business as well as expressions of preference from government procurement officials.

The double duty winder is a Langston 96-inch trim, type CA, with 60-inch diameter rewind capacity. A Langston shaftless unwind stand is used for rolls up to 96 inches wide, 60 inches in diameter, and weighing as much as 6500 lbs.

A strong contributor to the efficiency of the machine is its Langston shaftless unwind stand, with constant tension control and special decelerating components, plus pneumatic side register control—the latter an important feature in minimizing trim waste.

Installed in the counter roll production line, the winder is equipped with a wheel-mounted, roll stripping mechanism manufactured by Lamb-Grays Harbor Manufacturing Company so that rolls can be speeded to the adjacent wrapping table. When salvage operations are desired, this portable stripper easily rolls out of the way so that the permanently installed Revolvator lowering table can be utilized.

To minimize manpower needs and expedite roll production, the machine provides numerous automatic controls on the console and at convenient operating stations and other features to

(continued on next page)

#### Counter Roll Quality Wins Praise, Business

(continued from preceding page)

facilitate output.

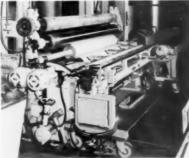
Such controls and features include:

- Roll ejectors, one for counter rolls and another for salvage rolls.
- Sheet holder to keep the sheet taut against the front drum during roll changes.
- Automatic air jets to blow the tail of the cutoff sheet over the rewind shaft for quick restarts.
- Side frame limit switch, controlling the diameter of rewound counter rolls and automatically decelerating and stopping the winder at preselected diameters.
- Specially designed Reliance drive providing for the continuing acceleration and deceleration characteristic of counter roll operations.
- Air brakes on winding drums and idlers.
- Hydraulically controlled rider roll so that operator can control roll pressure as desired.
- Rewind shaft bearing brackets of special inverted U-shaped construction and hydraulically powered.

Salvage roll features in addition provide:

- Conventional latch-type rewind shaft brackets to replace the inverted U-type of the counter roll operation.
- Roll ejector for large diameter rolls as mentioned above.
- Drive capacity to wind large diameter rolls of heavier grades at reduced speed.

Fitted with Langston's quick-setup, shear-cut slitters, guaranteed to run true within .001 of an inch, the machine keeps manpower tasks to a minimum and is overall designed for high-rate production and low cost operation.



... next shaft in position while running



... counter roll ejector in operation



... next shaft loaded as one awaits stripping



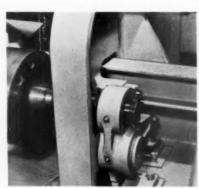
... rolls ready for stripping



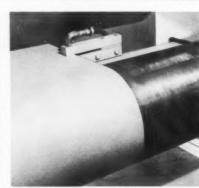
... coring up



... an overall backstand view of the installation



... tension control



... side register control

#### Black-Clawson buys William Kennedy & Sons

NEW YORK-The Black-Clawson Co. has purchased from Hadfields, Ltd., Sheffield, Eng., The William Kennedy & Sons, Ltd., Owen Sound, Ont., previously a division of Millspaugh, Ltd., Sheffield, which will manufacture the Black-Clawson equipment for pulp and paper mills in Canada.

Modification of production facilities is under way at the Owen Sound plant to adapt it for Black-Clawson produc-

Users of Black-Clawson equipment in Canada have been served by Black-Clawson (Canada) Ltd., Montreal. BCC will continue to provide engineering and technical sales services to the Canadian industry. It will now deliver Black-Clawson machinery produced at Owen Sound, as well as machinery from the U.S. and British plants of Black-Clawson. It is the intention of the company, however, to bring Owen Sound into production of the entire line as rapidly as possible.

The plant is the eighth

in Black-Clawson's world-wide manufacturing facilities, which include five plants in the U.S., one in England and one in Brazil. Equipment produced in these plants includes Pandia continuous pulping equipment, a complete

range of paper stock preparation machinery, paper and paperboard machines and air systems, equipment for paper and board coating and general converting, and extrusion equipment for the paper and plastics industries. Manufacture of the products of William Kennedy & Sons in the marine and specialty castings fields is being continued.

#### Enlarged Egan plant to make lab coater



SOMMERVILLE, N. J.-An extrusion lab coater with five roll sizes which can be fabricated into 11 different models will be manufactured by Frank W. Egan & Co. at its recently expanded plant here.

The "Combination Coater" will take up to an 18 in. web and will be marketed in about two months. Its introduction to the paper industry

will put Egan into the competitive circle with other extrusion coater m inufacturers, according to A. G. (Pete) Russell, head of paper converting sales.

We hope to answer all role coating needs on this single unit," he said.

A \$350,000 plant expansion, completed in Sept., more than doubled floor space, adding 38,000 sq. ft.

#### DIRECTOR OF RESEARCH AND DEVELOPMENT

This is a Senior Management position requiring sound fundamental knowledge of cellulose chemistry. Experience in the dissolving wood pulp field is desirable.

The successful applicant should hold a Ph.D and have the ability to organize and direct a research and development group of some 18 professional and 17 supporting personnel. He will report directly to the Senior Executive Officer of the Company.

This challenging opportunity offers great scope in a growing, progressive organization operating a dissolving sulphite pulp mill at Prince Rupert, B.C., and a new bleached kraft pulp mill at Castlegar, B.C.

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COMPANY, LIMITED 1030 West Georgia Street,

Vancouver 5, B.C. ATTENTION: EXECUTIVE VICE-PRESIDENT

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#### **Rotary Joint** Headquarters

started the whole idea. Today's complete line includes sizes from 1/4" to 8" . . . self-supported, pipe-supported, or rod-supported . . . for stationary or rotating syphon pipe . . . all operating speeds and pressures . . . for paper machines, calenders, corrugators, waxers, embossers, roofing machines, printing presses.



#### . . . . EQUIPMENT

#### Trimming knife



Applications: Paper trimming.

Features: Ultra-smooth, polished face of the Jet-Cut knife is said to virtually eliminate dust and drag in paper trimming operations. Polished to a 5-6 microinch finish, the smooth face as well as the edge of the knife aid in prolonging edge life by assuring cleaner cuts.

Specifications: Knife is made of high alloy steel which is specially hardened to provide high wear resistance, says the maker. This combination of special hardening and polishing produces a knife that runs with accuracy up to three times as long between regrindings.

Supplier: The Ohio Knife Co., Cincinnati, Ohio.

#### Power transformers ... offer reduced maintenance

Applications: Industrial use for units

rated up to 25,000 kva. Features: Less floor space, simplified up-rating, increased capacity and reduced maintenance.

Valuable floor space is conserved because the new transformers occupy at least 20% less area. This improvement, plus a 20% reduction in height and about a 10% weight decrease, makes it easier to move and install the units, says the manufacturer.

Size reduction means existing transformers can be replaced with new, higher-rated units of the same or smaller physical size. This permits increased power use and plant production without costly substation rebuilding.

Future increases in load can be easily handled by one of the new triple-rated Preferred Design units. When initially purchased as a self-cooled unit, this transformer can have its capacity increased by 33% by adding fans, and by another 33% with addition of a few more fans and a pump.

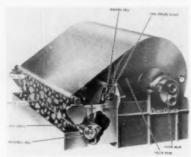
The transformer oil preservation

system, often a prime maintenance item, no longer needs even periodic inspection. This is possible because the sealed-tank oil preservation system, used on all ratings up to 25,000 kva, eliminates gas bottle replenishment, bulk gas regulators and gas line leaks.

Supplier: General Electric Co., Schenectady 5, N.Y.

#### Belt filter

. . . for filter drums



Application: For vacuum drum filters, sewage sludge dewatering, lime mud filtration, pulp mill black, green and white liquor clarification systems.

Features: The new belt filter design is said to solve the related problems of smooth application of the medium to the filter drum and uniformed belt tracking. Known as the D-O Webtrol filter, the unit applies dependable web tracking control and web spreading equipment to a new version of the basic Oliver vacuum drum filter design.

A bowed roll spreads and smooths the web, holding it flat against the filter drum under uniform tension. Unit is said to be particularly applicable to slurries which tend to bind the cloth and to operations where a sufficiently high filtrate clarity cannot be obtained under ordinary circumstances.

Supplier: Dorr-Oliver Inc., Stamford, Conn.

#### Control computer

. . . uses stored logic

Application: In process industries, can control several units within the plant. Features: Stored Logic concept in computer organization tailors the computer, TRW-530, to needs of each user and gives the computer capabilities equal to the most complex control job. Other features in addition to Stored Logic are parallel operation, large core memory and microsecond operating speeds. These features are said to make the computer economical

in programming, in operating time and in memory requirements.

The TŔW-530 communicates directly with process instruments and controls through analog and digital input-output equipment. For computer operator communication, the following is available: an operator's communication console, electrical typewriter with paper tape reader and punch, high speed tape reader and punch, alarm printers and digital time-of-day clock.

Supplier: TRW Computers Co., a division of Thompson Ramo Woold-ridge Inc., 8433 Fallbrook Ave., Canoga Park, Calif.

Lift truck line
... expanded to 12,000 capacity



Applications: Heavy-duty material handling in paper mills and ware-houses.

Features: Heavy-duty industrial frame has solid-section members of all-welded construction. This provides a solid base to hold the power train in alignment for long wear and low maintenance. Precision-type hardened alloy steel gears, semi-floating axles and anti-friction bearings are used in the heavy-duty double reduction drive axle. Power steering is standard.

High lift with a minimum overall lowered height is provided by the extra-lift high carbon steel mast, which sections are welded together to form a rigid, permanent unit structure. Dual plate carriages give visibility needed for efficient, safe placing and positioning of loads.

Safe controlled lowering of the

Safe controlled lowering of the loaded carriage, faster lowering of the empty carriage, are assured by pressure compensated lowering valve. Replaceable mast wear strips reduce maintenance and compensate for normal wear.

Specifications: Power for the F-120 comes from Allis-Chalmers G-230 Powerorater, 6-cylinder, valve-in head gasoline engine. It, develops 77 brake hp with 187 ft. lbs. torque at 1,650 rpm. LP gas and diesel engine are also available. Standard on the F-120 is a heavy-duty, easy shift two-speed



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#### NEW EQUIPMENT ...

constant mesh transmission. A twospeed power shift torque converter drive is optional. It smoothly transmits engine torque to the drive wheels and permits the operator to instantly change direction with the flick of the control lever.

Supplier: Allis-Chalmers Mfg. Co., Tractor Group, Milwaukee, Wis.

"Packaged" power plant . . . for large lift trucks



Applications: For fork lift trucks having load capacities of more than 15,000 lbs.

Features: One mechanic, chain hoist and a wrench are all it takes to remove and replace the entire power train unit from this fork lift truck. It's a feature of the large-capacity trucks in a new Monarch series line.

All components of the power train, engine, transmission radiator, cooling system, pumps, battery and all engine accessories, are preinstalled on a special steel chassis bolted to the frame. Simply removing eight bolts enables the mechanic to lift out the whole unit for overhauling. System also permits users to install a spare power unit in less than four hours and reduce downtime.

Supplier: Towmotor Corp., 16100 Euclid Ave., Cleveland 12, Ohio.

#### **Gate valves**

. . . are single wedge type

Applications: For corrosive solutions and viscous fluids, such as handling pulp mill black and green liquor recovery lines.

Features: The new line of 150 lb. gate valves is available in four different end designs: 1, flat-face flanged ends, No. 127-FF, from ¼ in. to 18 in. 2. Standard ASA raised face flanged ends, No. 127, from % in. to 18 in. 3. Screwed ends, No. 122, from ¼ in. to 2 in. 4. Butt welding ends, No. 126.

New line is available in variety of corrosion resistant alloys.

Supplier: Alloy Steel Products Co., Linden, N.J.

Valve positioner . . . develops 1,200 lb. thrust



Applications: For driving valves, dampers, levers and other final control elements.

Advantages: Positioner stands 16 3/16 in., weighs 30 lb., develops 30 lb. thrust, produces a 2.25 power to size ratio and has a positioning cylinder with a 4 in. bore and a 5 in. stroke. Stroke accuracy is 1.0%, the supplier states, and full 5 in, stroking time is 2 seconds or less. Frequency response with no load at 10% peak to peak input signal change is 1.0 cps. At 5% peak to peak, frequency response is

Supplier: Controls division, Hagan Chemicals & Controls, Inc., Hagan Center, Pittsburgh 30, Pa.

#### Roller chain

. . . is self-lubricating

Applications: For drives and conveyors that can't be regularly lubricated. Advantages: Self lubricating achieved by a heavy, oil-impregnated, sintered steel bushing that replaces a conventional roller and bushing. Sintered bushing allows "self-feed" lubrication between bushings, pin and sprocket teeth. "Rex Redi-Lube" chain pre-vents tight joints and is interchangewith A.S.A. roller according to the supplier.

Supplier: Chain Belt Co., Milwaukee 1, Wis.

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#### LETTERS to the editor

#### Apologies to Standard and P.C. of A.—High Rankers

-New York Editor: I was interested in reading the issue of Pulp & Paper for Nov. 13, 1961. to note that on page 9, in your ranking of pulp and paper companies, the name of Standard Packaging Corp. was omitted. Apparently this was inadvertent, because Fortune lists Standard as 298th in its list of "500 Largest Industrial Corporations" for 1960; and Standard has reasonably extensive pulp and paper properties .-Alan Palwick, Secretary and General Counsel, Standard Packaging Corp.

Editor's Note: Mr. Palwick is, of course, correct, and we are sorry for the omission which was accidental. Standard ranks among companies owning pulp and paper properties after Curtis Publishing which was 251st. We also apologize to Continental Can, American Can, and Packaging Corp. of America, which were also accidentally omitted. They ranked 35th, 37th, and 303rd, respectively. To correct your table, make these entries:

Continental Can: Rank, 35; headquarters, New York; sales, \$1,116,956,000; profit, \$27,802,000.

American Can: Rank, 37: headquarters, New York; sales, \$1,058,994,000; profit, \$35,382,000.

Standard Packaging: Rank, 298: headquarters, New York; sales, \$140,670,000; profit, \$4,166,000.

Packaging Corp. of America: Rank, 303; headquarters, Evanston, Ill.; sales, \$138,279,000; profit, \$6,511,000.

#### New Zealand Paper "Conscious

-Wellington, New Zealand Editor: May I congratulate you on the latest World Review Number. This number is certainly one of the highlights of the year in the pulp and paper world. Here in New Zealand we are starting to become pulp and paper conscious and the New Zealand Forest Service feels it should keep this interest up .- A. L. Poole, Director-General of Forests, New Zealand Forest Service.

#### Kudos from Engineers' Chief

-Calhoun, Tenn. Editor: On behalf of the Engineering Division, I want to thank you for the excellent coverage of our 16th Engineering Conference. An outstanding job was also done on the summaries of some of the key papers presented at this confer-

We were gratified with the success of our conference and are pleased that you agree with us.-M. J. Osborne, chairman, Engineering Division, TAPPI.

#### Another Concentration Method Contributes to "Clean Streams"

Cambridge, Mass.

Gentlemen:

Editor: I read with great interest the articles "Clean Streams" by A. M. Cadigan in PULP & PAPER, Aug. 21 and Sept. 4. It is good to let people know what the pulp and paper industry is doing to solve its waste problems and it helps greatly to clear the air on a problem which has always been somewhat touchy for the industry.

I want to call your attention to a method of concentration prior to burning or recovery of chemicals which has been successfully applied by Lignosol Chemicals Ltd. for the last ten years.

This company, an affiliate of Anglo-Canadian Pulp & Paper Mills Ltd., and Anglo-Newfoundland Development Company Ltd. embarked on a research project in the middle forties to determine the best and most economical method for the concentration of spent sulfite cooking liquors with a view to the recovery of chemicals.

Their studies led to the conclusion that vapor compression evaporation offered the most economical means of concentrating these liquors with a minimum of degradation of the product. A pilot plant was therefore built and, from data obtained in its operation, a full size vapor compression evaporator was designed, engineered and installed in their plant in Quebec City in 1951. This unit has a capacity of 75 tons of 50% solids a day from a 10% solids feed concentra-

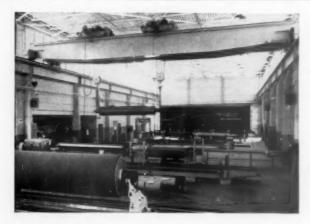
The evaporator is extremely economical and has consistently evaporated at the rate of fifteen lbs of water per pound of steam condensed, which is around four times the efficiency of a standard sixeffect evaporator. The company's growth in the field of chemical recovery has been so successful that we were asked to engineer and install another evaporator of the same capacity which went on stream in April, 1960.

The use of vapor compression has made the recovery of the values in the spent cooking liquors a profitable operation because it has solved one of the biggest problems facing recovery, namely, the high cost of concentration of the dilute solutions.-Francis G. Shaw, Vice President and Treasurer, The Bowen Corn.

#### Blade Coater is at Bucksport

-Waupaca, Wis. Editor: In the October 16 issue of PULP & Paper you listed on page 7, the mills which have blade coaters and listed St. Regis Paper Co.-Deferiet mill, for a 200 in, blade coater. Should this equipment not have been in the Bucksport, Maine mill?-Kenneth E. Pinkerton, sales manager, Filter Materials, Inc.

(Editor's Note: Yes. See our November 13 issue which describes this coater at Bucksport.)



# Roll Handling

#### Simplify Paper EUCLID Problems with CRANES

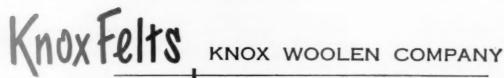
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#### The last word

#### The Costly Ketchikan Strike

Everyone deplores the use of force to settle international or national political issues, yet strikes or lockouts are condoned as legitimate weapons in management-labor controversies.

Perhaps the sorriest example of a strike's costly waste to both sides is the recent experience at Ketchi-

kan Pulp Co.

Employes in this big Alaska market sulfite pulp mill and in its network of woods operations lost approximately one-fourth of their year's work. They will be years earning back what they lost.

We note that the union newspaper headlined what it claimed was a great victory and substantial wage gain. Actually, the new labor contract provides substantially the same percentage increase in wages as was granted last June 1 by the entire pulp and paper industry of the Pacific Coast states-without a

The stockholders also lost, The idle plant expense wiped out all the earnings made in the first half of the year-a net profit of \$757,890 as of June 30 became a net loss of \$128,569 as of Sept. 30.

Major issue was a union demand for a cash cooperative store, financed by the company and jointly operated by company and union. Union leaders had stubbornly argued for this commissary almost since the mill was built, demanding that the company go back on a promise it had made to the friendly storekeepers of Ketchikan that it would never compete with them. Finally, after a tragic strike, this impossible demand was withdrawn.

#### Other Strikes Hit Mills

As this is written, another costly strike of long duration was continuing at the Bogalusa, La., mill of Crown Zellerbach's Gaylord division. As at Ketchikan, this already has become a serious financial loss to both stockholders and workers.

The Finch, Pruvn & Co. strike, which began last July 15, ended in mid-October after a similar loss to both sides and to the community of Glens Falls, N.Y. Both sides feel that they got what they had wanted way back in early summer. The union newspaper, of course, claims a victory. Versions of its alleged strike triumphs are carried to hundreds of mill towns hundreds and thousands of miles away, and those are the only reports of the strike results which pulp and paper workers will read.

Seniority was a major issue, along with wages, at Glens Falls, despite the fact that the company already had promised the same seniority provisions obtaining in competitive mills and in 17 other mills in the same area.

In a Russian pulp and paper mill, the editor of PULP & PAPER was told by the manager: "We don't ever have strikes. We settle our problems peacefully. We have no labor troubles." On the surface at least, the workers in this mill appeared happy and healthy and they have all the "fringe benefits" (and even more such benefits) which are so important to American labor. Besides, they can earn more than normal pay without overtime—"incentive" payments are common.

Without reference to the basic question of freedom and its serious limitations in Russia, the cold, hard fact is that this nation, which boasts it will match America economically some day, is never stalled in its advance forward by strikes,

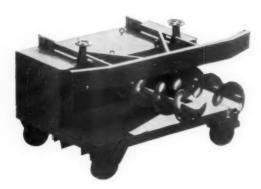
**Fears Over Automation** One final word about the labormanagement relations climate in this year 1961. It is our observation that the Kennedy Administration has been subtly giving encourage-ment to strikes by its senseless alarums and wringing of hands over the progress of automation.

Perhaps we have missed mention of this, but we have not seen any newspapers or other publications point out this frequent sowing of the seeds for strike action by the government. The President, Mr. Goldberg and others have recklessly painted an ugly picture of automation. Instead, they should be preparing the public and the labor unions for this new age.

Paul Baldwin, executive vice president of Scott Paper Co., a company which year after year has created more jobs for workers, says that personnel problems arising from automation must be met and solved but our competitive success as an industry and as a nation depends on implementation of automatic processes.

Said another Scott officer, Vice President Charles Dickey: "Automation is our best hope for creating more and more interesting jobs."

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